

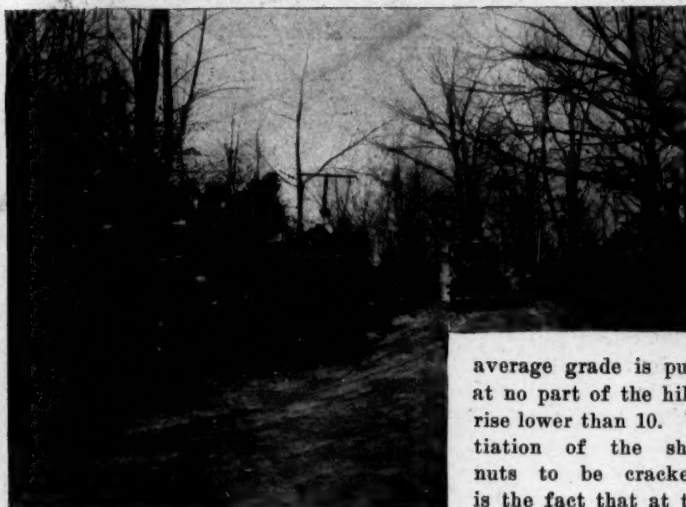
MOTOR AGE

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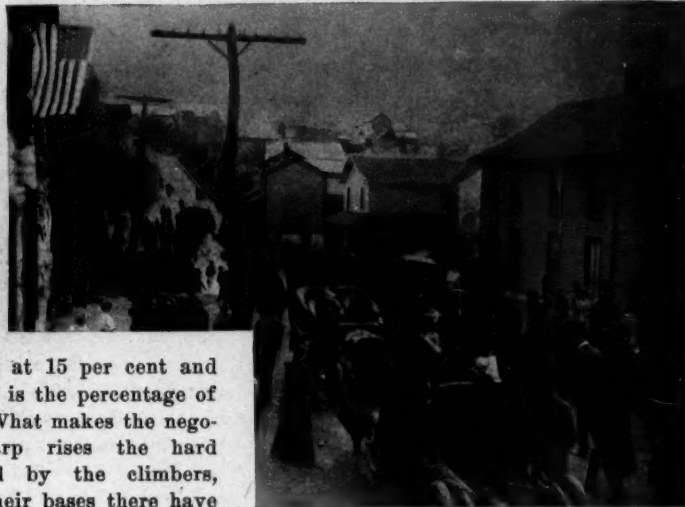
CHICAGO, MAY 17, 1906

\$2.00 Per Year

GREAT GOING ON GIANT DESPAIR HILL



JUDGES' STAND AT THE FINISH



SCENE AT THE BOTTOM OF THE HILL

WILKES-BARRE, PA., May 10—Up here on the outskirts of the Diamond city, the metropolis of the coal region, automobilists today had presented for their solution as tough a hill-climbing proposition as it has been their lot to tackle since Senator Morgan introduced them to the precipitous sides and crags of the Climb to the Clouds up Mount Washington. The senator had a finger in this gruelling grade grind, too; for it was he who managed the affair for the Wilkes-Barre Automobile Club and brought a rare all-around bunch of cliff-climbers to try the scaling of the heights of Giant's Desire. Some charged the hill victoriously, others wavered and fell back, while others landed ingloriously in the ditch that skirts the outer edge of the Devil's Elbow.

This hill up through Laurel Run, a mining village on the outskirts of Wilkes-Barre, to the top of Giant's Desire, is well worthy of the mountain-climbing aspirations of the most skillful and nerviest driver and of conquest by any car boastful of the powers of its motor. It is a mile and a furlong long. It has a short ascent or two of 27 per cent grade, which, they say, is steeper than any rise even the Mount Washington road has to offer. Its

average grade is put at 15 per cent and at no part of the hill is the percentage of rise lower than 10. What makes the negotiation of the sharp rises the hard nuts to be cracked by the climbers, is the fact that at their bases there have been built "breakwaters." These serve the double purpose of shedding water and giving teams a resting brace in the long, tiresome ascent. The course starts at 15 per cent and rises gradually through 20 to 22 per cent at the Devil's Elbow, a little over half way up the hill. Here there is a short, sharp turn to the right, bounded by a ditch on the outside. Around the curve the grade drops to 10, then rises to



REFEREE GORHAM ON THE LOOKOUT

22, which continues around an S curve. Then comes the homestretch, with its beginning at Prospect Rock. Here is the 27 per cent rise, which shades off to 23 at the finish, punctuated by a couple of thank-'e-ma'am breakwaters, so that the grade conqueror lands at the top pretty well razzle-dazzled, having bumped the bumps all through the last furlong.

The battle of the heights drew quite a crowd of the old guard to Wilkes-Barre. A. W. Church, Tom Wetzel, Benjamin Briscoe, Ray Owen, Batch, Sid Gorham, Jack Hiscock, Fred Camp, Rob Johnson and Mrs. Rob, Charley Soules, Lazarnick, Alex. Schwalback and Wag were there. Wag was starter, of course. The coal region invaders found the Diamond city ablaze with electric lights and gay with bunting, for Wilkes-Barre was celebrating her centennial. There was a midnight parade and the streets were thronged with merry-makers armed with horns, rattles, cow bells and ticklers, displaying all the abandon of a Broadway crowd on a New Year's night. Most of the invaders, though many of them did not get in town until late in the evening, bided themselves to the Wilkes-Barre Automobile Club and the Press Club. At the former there were billiards and booze, tenpins and lie-swapping, and at the latter



WATCHING APPROACH OF A CAR



AN ORIENT RUNS OUT OF GASOLINE

rough house for fair, involving many.

The climb was set for 9 o'clock, so there was an early start for the hill. The trolley cars did not bring one any too near the scene of the contest, so there was a scramble for seats and foothold on the few automobiles available for the writers. The city limits passed, the place of the start right at the beginning of the main street of Laurel Run, was soon reached. A few chose to get off and see the struggle from its initial point. Most of us, though, preferred to view the battle from the top. The way that White steamer pulled and sweated to get its big load of us up was a study in motor dynamics. Hundreds of foot passengers were toiling up the ascent and hundreds more were seizing the points of vantage on rocks and banks and trees on the way up. The road was really very much like that up Eagle Rock, though the West Orange mountain path gives one no such magnificent and continuous prospect as does the Giant's Desire highway. As we toiled up the tiresome, tortuous ascent the beautiful Wyoming valley lay beneath us with the Diamond city below; great, black coal breakers scattered through the open; and another range of mountains beyond—a magnificent spectacle.

Arrived at the summit we found a platform erected for the timers. Here there was a telephone connecting with the timing stand at the foot of the hill. The timing modus operandi was for the senator at the foot to count "Coming—one, two, three, go," to Patch at the top. The latter repeated it to Charley Dieges and the other timers, who were at his elbow with their watches, waiting the signal.

The arrangements for the conduct of the climb seemed on the surface crude, but for all that there was no ground for complaint of the efficient work done either by the committee or the officials. The Laurel Run authorities had lent a ready ear to the suggestions made by C. W. Matheson and the members of the local committee. They

smoothed down as far as practicable the breakwaters—what these must have been before they were smoothed can well be imagined—and gave the hill over exclusively to the automobilists. The climbing began at 9:40 o'clock in the morning, and despite the long list of climbers, the unavoidable delays through stalled and ditched cars, and the fact that the contestants had to be sent back to boot by the same road, was finished at 2 o'clock in the afternoon. Here and there men with constables' badges were in evidence and at the foot and summit Laurel Run officials and volunteer constables piled in and helped effectively. You can imagine, though, that the pace at which the contestants made the final climb gave plenty of time for spectators at the top to get out of the way. The cars in each event were kept at the top until the event was completed and then sent to the bottom in a bunch. There really were very few delays of consequence. Prospect Rock, where most of the stalled ones came to grief, was near to the top, so that quick notice of the course being cleared could be sent to the bottom.

It was hard for the watchers at the top or for those who had to fight their way up

the hill to realize that a May-day carnival of sport so far as the calendar went was in progress. The weather clerk had handed out a bitterly cold March day for the climb. The leafless trees on the mountain top added to the wintry illusion. A cold wind necessitated a turning up of coat collars and the man with the bottle was the popular hero of the day. There were thick flurries of snow at the start. Then came hail and snow storms alternating. May weather was enough in evidence at times to permit a thaw, so that in all but the initial events it was slippery climbing, the wheels spinning at times through lack of traction. The officials and enthusiasts shivered and suffered for 3 hours until a man gifted with human intelligence suggested a bonfire and then all was warm and lovely on the fire-side, at least, of one's anatomy.

A disappointment in connection with the climb was the inability of that grand old car, the Hemery Darraeg, to start. It had made during the preceding night and early morning a run of 170 miles over abominable roads to be on hand. A. L. Campbell was to have driven it; but in its rough journey it had put its transmission out of kilter.

Howard Gill, of Baltimore, was on hand with a Stanley steamer, but was not permitted to start with it in the stock events. Referee Gorham ruled that the car was not a stock car in the face of Gill's inability to produce a catalogue, as required by the rules. Gill and Gorham had a pretty warm argument over it at the Sterling hotel and came so close to blows that Wag and others, they say, had to separate them to prevent trouble.

Though several cars skidded into the ditch at Devil's Elbow, there were no serious accidents to cars or men. The chauffeur of Norman Stewart, of Scranton, however, was badly scalded through unscrewing a radiator of the Pierce car, which had stalled at the Devil's Elbow.



CROWD WATCHING THE CONTEST

COMPLETE RESULTS OF THE WILKES BARRE HILL CLIMB

FREE FOR ALL					STOCK CARS COSTING \$2,500 AND UNDER				
Time	Make	H.P.	Cyl.	Price	Entrant	Time	Make	H.P.	Cyl.
1-2:16 1/5	English Daimler	45	4	\$9,000	Decauville Auto Co.	1-2:56 4/5	Pope-Toledo	24	4
2-2:27	Stevens-Duryea	50	6	5,000	J. Stevens A. & T. Co.	2-3:21 1/5	Rambler	35	4
3-3:04 1/5	Maxwell	36	4	3,500	Maxwell-Briscoe Co.	3-3:21 1/5	Buick	22	2
STOCK CARS COSTING \$1,000 AND UNDER					STOCK CARS COSTING \$5,000 AND UNDER				
Time	Make	H.P.	Cyl.	Price	Entrant	Time	Make	H.P.	Cyl.
1-3:10 2/5	Buick	22	2	\$1,000	H. J. Koehler	1-2:27	Stevens-Duryea	50	6
STOCK CARS COSTING \$1,500 AND UNDER					STOCK CARS COSTING \$9,000 AND UNDER				
Time	Make	H.P.	Cyl.	Price	Entrant	Time	Make	H.P.	Cyl.
1-3:00 4/5	Buick	22	2	\$1,000	H. J. Koehler	1-2:11 1/5	English Daimler	45	4
2-4:49 1/5	Jackson	20	2	1,250	Jackson Auto Co.	2-3:16 3/5	Pope-Toledo	35	4
3-5:25	Maxwell	19 1/2	2	1,450	Maxwell-Briscoe Co.	3-3:31 1/5	Matheson	40	4
CARS COSTING \$2,600 TO \$3,600									
Time	Make	H.P.	Cyl.	Price	Entrant				
1-3:18 1/5	Rambler	35	4	\$2,500	Herbert Bitner				
2-3:25 3/5	Pope-Toledo	35	4	3,500	S. A. Elliot				
3-3:27 1/5	Maxwell	36	4	3,500	Maxwell-Briscoe Co.				
4-4:24 1/5	Matheson	24	4	3,500	Matheson Motor Co.				

TABLE SHOWING THE TIMES MADE BY CARS IN ALL CLASSES IN WILKES BARRE'S FIRST ANNUAL HILL-CLIMB

The tournament began with the climb for cars under \$9,000, the original limit having been raised a thousand to admit the English Daimler. The first to make the attempt was the big Matheson 60-horsepower car, piloted by Ralph Mongini. The car was said by its backers to have made the climb in 2 minutes 5 seconds. It made a fine run up the hill and around Devil's elbow and when it was heard seemingly less than a quarter of a mile away Dieges' watch had but just passed the 2-minute mark. Its bright promise, however, faded to nothing at Prospect Rock, when Mongini, they say, tried to shift to a lower gear as he bumped the bump at the foot of the 27 per cent rise and stalled his engine just at a time when he seemed to have a chance.

Next came Harding with the English Daimler, with A. W. Church seated on the floor of the car acting as mechanic. The Britisher made a thrilling run of it. The sturdy car fairly leaped over the wind-up bumps and crossed the line in impressive fashion in 2 minutes 11 1/2 seconds. S. A. Elliot in a 35-horsepower Pope-Toledo made the run in 3 minutes 16 1/2 seconds, and C. R. Greuter, in a 40-horsepower Matheson, scored 3 minutes 31 1/2 seconds. E. R. Kelley, 50-horsepower Thomas, started, but failed to reach the top.

In this event the new six-cylinder 50-horsepower Stevens-Duryea made its debut with S. H. Hancock at the wheel. It made a splendid run of it and undoubtedly, as its subsequent climb in 2 minutes 27 seconds proved, is a fast performer up hill. Here occurred an unfortunate and aggravating error on the part of the man at the 'phone at the foot of the hill, who neglected to signal the six-cylinder's crossing of the line, so no time was taken. In the run the tires were badly ripped and, having to be replaced, it was impossible to go back for a fresh start until toward the end of the day, when the judges permitted its 2 minutes 27 seconds, scored in

the free-for-all class, to be counted for the \$5,000 class as well.

The car had been run from the factory at Chicopee Falls to Wilkesbarre. It started at 10 a. m. on Tuesday and despite the bad roads and 2 hours' stop for dinner at New Haven, reached New York at 5:30 p. m. S. H. Hancock drove it, with C. C. Hildebrandt, M. E. Brigham and George L. Thompson as passengers.

Leaving New York that night at 9:30 it reached Danville at 12:00 in the morning. Starting again at 8:50 Wednesday, through being directed wrong, the tourists found themselves at Port Jervis, a loss of fully 60 miles. They got to Stroudsburg at 2 o'clock and reached Wilkesbarre at 6:45 in the evening, having covered 400 miles in all.

H. J. Koehler had a practical walkover with his 22-horsepower Buick in the \$1,000 runabout class. In rounding Devil's Elbow, Charley Fleming skidded and ditched the 10-horsepower Maxwell. Koehler also won the \$1,500 class. In the latter contest R. M. Owen was a starter with a 16-horsepower Reo. The car made a fine run as far as the fatal Prospect Rock, where it stalled. It was found that the wire

connection with the rear cylinder had broken at an inopportune time.

The best run in the course of the regular running of the \$5,000 contest was made by Valentine Bliss, who made the circuit in a 35-horsepower Pope-Toledo in 3 minutes 12 seconds. Later, though, the officials allowed S. H. Hancock to score his mile in 2 minutes 27 seconds with the six-cylinder Stevens-Duryea in the free-for-all race also, which landed him a winner of the event.

The \$2,500 class had six survivors and was the best all-around contest of the day. Charley Soules won it handily with a 24-horsepower Pope-Toledo. H. J. Koehler, 35-horsepower Rambler, who tied for second prize in 3 minutes 21 1/2 seconds, did not run off the dead heat, time not permitting. Bitner, however, made a better showing in the \$2,600-\$3,600 class, which he won with his Rambler runabout in 3 minutes 18 1/2 seconds.

By the time the free-for-all, which wound up the card, was called, the course was very slippery. In making the run not only did the cars skid dangerously, but at times their wheels spun through lack of traction. Unless the Stanley steamer or the six-cylinder Stevens-Duryea could do the trick it seemed all over but the shouting for Harding and his English Daimler.

The Britisher was the next to make the climb and scurried up the heights and bumped the bumps in 2 minutes 16 1/2 seconds, a more impressive performance under the then road conditions than its 2 minutes 11 1/2 seconds at the start of the day's climbing. Both records were made unstripped.

C. W. Kelsey followed in a 36-horsepower Maxwell, which he had stripped, and lowered its former time to 3 minutes 4 1/2 seconds. Hancock and the 50-horsepower Stevens-Duryea wound up the day's climbing with the 2 minutes 27 seconds before noted and the people went home well satisfied with what they saw.



TELEPHONE IN THE JUDGES' STAND

FRANCE ACTS IN QUEER MANNER

Automobile Club of America Mystified by Apparent Refusal of Sister Organization to Receive Vanderbilt Cup Nominations—Yankees May Have to Go it Alone

New York, May 15—Whether the Automobile Club of France will or will not have anything to do with the selection and endorsement of a French team for the Vanderbilt cup race is a question, the answer to which is now being sought. An English trade paper of recent date states positively that it will not, but will recognize the grand prix as the sole international road race of 1906. That there are similar reports afloat in Paris is indicated by a letter received in this city from a Parisian daily devoting much space to automobiling, seeking authority to receive and forward the entries of French makers for the race on the ground that the A. C. F. will decline to participate in any way in the Vanderbilt contest. In addition to this letter a Paris daily sporting sheet—whether the same or another paper is not announced—has cabled Mr. Vanderbilt asking for authority to receive and forward entries. French makers are writing one or more of the Paris sporting dailies inquiring as to the making of entries. The Darraeq, de Dietrich and Panhard people are known to have intentions of nominating cars.

To secure definite information as to the attitude of the French club in the matter, Secretary Butler, of the A. C. A., the international intermediary of the A. A. A., mailed a letter today to its secretary asking for an official statement in the matter. As is well known, the French club, following the Bennett and Vanderbilt cup races of last year, and the conference of clubs at the time of the Paris show, pronounced against the recognition in future of any race but the grand prix. Neither the Vanderbilt commission nor the A. C. A., however, has received any communication on the subject, much less any formal notice of withdrawal from the Vanderbilt commission. In fact, only at the recent meeting of the A. A. C. racing board Rene de Knyff was elected as representative of the French club on the commission. If the French club has decided to withdraw it would seem to have shown a censurable lack of courtesy in not notifying Mr. Vanderbilt or the commission of the fact by this time.

That French makers desire to and will enter cars for the contest there seems little doubt, whether the French club endorses it or not, unless the club should go so far as to blacklist participants in future grand prix contests, which is not at all likely. In that event the importers of French cars would see to it that they were represented and would doubtless have it made possible by the Vanderbilt cup commission in such an emergency.

Even if the French club refuses to nominate or endorse a team, Mr. Vanderbilt could amend his deed of gift and the commission alter its rules to permit of entries being made direct and declare that entrants shall be eligible for acceptance in the order of their finish in the grand prix. No one could have ground for dispute that a team so chosen would be a national and representative one, even if it were without the endorsement of the French club. It seems unlikely, though, that the French makers, who dominate the French club, will permit any opposition to the American race, which would antagonize American buyers and stand in the way of the exploitation of French cars in so rich a market as is this country.

Nominations for the American team in the Vanderbilt cup race now number four. The latest formal entry is that of a B. L. M., by Breese, Lawrence & Moulton, a trio of young millionaire enthusiasts. The previous entries were a Pope-Toledo, a Frayer-Miller, and an Oldsmobile. With the issuance of the entry blanks last week it is expected that nominations will soon begin to come in more rapidly. Several makers, it is understood, who wrote Chairman Thompson about making entries, were advised by him to make them on the regular blanks when they should be issued. The fact that the fee is \$1,000 would naturally tend to make a maker postpone his entry until he was pretty sure of his car being built and ready in time. In brief, the conditions governing entries follow:

Competition for the cup is open only to clubs that are recognized by or affiliated with the American Automobile Association, the Automobile Club of France, the Automobile Club of Germany, the Italian Automobile Clubs and the A. C. G. B. I.

Members of such clubs must apply to their clubs for nomination. American owners of foreign cars must be members of and make their entries through the recognized club of the country in which their cars are manufactured.

The entry blank must be properly filled out and signed, the entrant agreeing to assume all expense incidental to his participation and all liability for criminal or civil suits for damages caused by him.

The entry must be in the hands of the commission not later than July 1, 1906, and must be accompanied by the entry fee of \$1,000.

The car entered must not weigh more than 2,204 pounds, nor less than 881 pounds, and must have a seating capacity for two passengers, whose weight must be at least 132 pounds each.

Furthermore, the car must come within the meaning of the racing rule, which reads: "An automobile, motor car or car within the meaning of these rules is a four-wheeled vehicle propelled by self-contained mechanical means and provided with two brakes, each operated independently of the other, and a motor-driven reverse gear."

The car in each and every one of its parts and equipment must be entirely constructed in the country of the club which it represents.

In signing the entry blank each entrant

agrees to furnish after July 1, at the request of the commission, the following data regarding his car: Name of car, motive power, weight, wheel base and tread, size of tires, type of engine, rated horsepower, number of cylinders, side chain or propeller shaft drive, number of turns of engine to one turn of wheels on high gear, number and character of brakes, kind of ignition, gasoline capacity, water capacity, type of cooling or condensing system, steering gear, change gear, number of speeds and any other facts requested.

There is likelihood of radical amendment of the course used for the race last year, and it is even hinted that the route traveled on the occasion of the 1904 contest through Hempstead and Queens may be chosen. It is no secret that the commission has no liking for last year's stretch embracing the dangerous Guinea woods and "S" turns and that Chairman Thompson has been exploring Nassau county in search of an amended route. It is not believed that there would be any serious opposition to running the race again over the 1904 course, which was faster and safer than that used last year. It would be necessary, however, to get permission were the townships en route to do away with the controls demanded for the final contest, as it is hardly believed that contestants will stand for anything but a continuous race this year, even if the 1906 route has to be again followed. Chairman Thompson expects to have a conference shortly with the Nassau county supervisors on the subject of route.

From the fact that he has been to the Olds Motor Works in conference anent the cup candidate, whose construction is about to be begun, it is guessed that Joe Tracy may possibly be the driver of the Oldsmobile racer in the eliminating trial and the race itself, if the car makes the American team. Tracy, however, maintains stoutly that he is only a consulting engineer and not a driver by profession. It is not believed, though, that he would be likely to resist the temptation to take the wheel of a car which he deemed would have more than an even chance of winning, especially if he had something to do with its building and designing.

Edward Russell Thomas, of the racing board, has just received a 120-horsepower Mercedes touring runabout. From its abnormally high power it is guessed that he will likely try its speed at the coming Atlantic City and Cape May beach meets. Another guess is that he will enter it for the Vanderbilt race as a member of the German team.

BOOM TRANS-STATE ROAD

Philadelphia, May 14—The proposed Philadelphia-Pittsburg highway received a big boost Saturday night, when, at a dinner given at the Union League, it was decided to organize the Pennsylvania Good Roads Association, the primary object of which will be the laying down of such an improved trans-state road, eventually extending the work to other portions of the state. A committee to secure a charter for the new association and to manage the campaign was named, consisting of Speaker

Henry F. Walton, of the Pennsylvania house of representatives; George T. Oliver, of Pittsburg; George F. Huff, William A. Dick, president of the Automobile Club of Philadelphia, and A. G. Hetherington. The presence of Governor Pennypacker at the meeting and dinner gave evidence of the earnestness of the projectors of the enterprise.

Speaker Walton opened the ball with an explanation of the objects of the meeting. These were, he said, the creation of a good roads association; the securing of the coöperation of the county commissioners of the fourteen counties through which the proposed highway will pass; to urge these commissioners to pledge their efforts to obtain from the state all the money possible, and later on to enlist the governor's services.

Third Vice-president Samuel Rea, of the Pennsylvania railroad, who first suggested the highway; Robert P. Hooper, treasurer of the Automobile Club of Germantown; Barclay H. Warburton, editor of the Evening Telegraph; United States Senator Penrose, Charles Emory Smith, Colonel James Elverson, proprietor of the Philadelphia Inquirer; George W. Ochs, proprietor of the Philadelphia Ledger; Congressman Edward Morrell, J. P. Dwyer, editor of the Philadelphia Record, and Isaac Shaw, Jr., president of the Pennsylvania Motor Federation, were among the prominent men present.

SQUAB FOR MOTORISTS

Pittsburg, May 12—James Geary conceived the idea that Pittsburg would make a splendid place to raise squab on a big scale and make a fortune for him. He interested some of his friends, formed a company with a capital of \$50,000, bought 7 acres of land just outside of Allegheny on the old Evergreen road and now has a big force of men employed erecting buildings to house 5,000 pairs of pigeons. Squabs will be the principal product of the big plant this year and a market is already assured in Pittsburg for the entire output. The Automobile Club of Pittsburg, desiring to get the most out of this unique venture, is now negotiating with the squab company with a view to building a small but cozy restaurant on the squab farm near the Evergreen road which may serve as a rendezvous for city automobilists and their friends.

ROAD RACE FOR CHICAGO

Chicago, May 16—Directors of the Chicago Automobile Club have decided to promote a 100-mile road race to be run over some 10-mile circuit near the city. No date has been selected, but it probably will be around September 1. It also was decided to accept the offer of a cup for a reliability test, made by Ralph Temple, president of the Chicago Automobile Dealers' Association. The route for this trial will undoubtedly be from Chicago to Milwaukee, to Rockford and home again.

GIVE OUT THE PRIZES

Winners in 2-Gallon Efficiency Trial Get Trophies—Alcohol Test Is Proposed

New York, May 15—The winners in the A. C. A. 2-gallon efficiency test—the Deauville Automobile Co., 12-horsepower Franklin; Dr. Samuel B. Butler, 24-horsepower Frayer-Miller, and S. D. Stevens, 20-horsepower Darracq—were presented with their prizes at the A. C. A. last night—a \$500 gold punch bowl for first, a \$100 silver cup for second and a silver medal for third. Dave Hennen Morris, president, and Dr. Schuyler Skaats Wheeler, chairman of its contest committee, made the presentation speeches. On distance alone the four-cylinder Orient buckboard leads all the machines with 101.6 miles. Frank Dampman's Indian tricar traveled 99.8 miles on one gallon of gasoline. Following is the corrected record of the first fifteen cars:

	H.P.	Passengers	Con-test Wgt.	Miles	Score
Franklin	12	2	2,300	87.00	200,100
Frayer-Miller	20	5	4,070	47.90	194,953
Darracq	20	5	3,910	46.44	181,580
Berliet	24	5	4,480	39.10	174,386
Mack	50	19	10,125	17.13	173,441
Franklin	12	4	2,940	58.40	171,696
Queen	28	4	3,960	41.40	163,944
Stoddard-Dayton	30	5	4,000	40.83	163,320
Lozier	40	6	5,290	30.28	160,181
Renault	14	5	4,200	36.61	153,762
Darracq	32	4	4,400	34.62	162,328
Compound	16	5	3,410	43.50	149,422
Frayer-Miller	24	5	4,200	35.50	149,100
Renault	10	4	4,040	36.83	148,793
Packard	24	6	4,910	30.25	148,527

The use of alcohol for fuel was touched upon and the president urged the members to write their congressional representatives in favor of the free alcohol bill now pending before congress.

F. E. Muscovics told of some tests of alcohol as a fuel recently made near Columbus, O., by a Frayer-Miller car.

"The tests were made," continued Mr. Muscovics, "without any special carbureter or other appliances than those in use on the gasoline-propelled car. The car that was used went 28 miles on 1 gallon of gasoline on the roads just outside of Columbus. The same car, with the use of alcohol, did 24 3-10 miles. Better conditions have now been devised in heating the carbureter, electricity being used, by which means the engine can be started within 10 seconds, and much better results will undoubtedly be secured. When the use of alcohol becomes a commercial possibility it will open the way for new devices that will materially assist the use of alcohol in motors and the results will assuredly be as great as are now obtained by gasoline and possibly greater."

Mr. Muscovics also stated that tests had been made in the manufacture of alcohol from different substances—potatoes, beets and other vegetables being used—and the cost per gallon had been between 8 and 9 cents. With gasoline now selling at retail in the Broadway garages at 25 cents and the supply growing scarcer, it is easy

to see the future possibilities in the use of alcohol, the speaker contended.

President Morris showed plainly that the Automobile Club of America is ready to arrange for a comparative test of alcohol motors just as soon as the demand is sufficiently strong to warrant the practical success of such a contest.

MISHAPS OF CONSTABLE

New York, May 14—The constable was king yesterday out along the Westchester county road and over in Nassau county on Long Island and speed traps abounded on every side. The usual golden harvest was reaped, but all the arrests were not made without several amusing incidents cropping up, the man with the star sometimes coming out the little end of the horn. Not many arrests were made in Nassau county, for the residents took pity on the motorists and warned them of the traps. One of the justices also took a day off, which necessarily slowed up the constables. One funny incident is related, though, in which Constable Powell figured. He had stopped two cars and arrested the chauffeur of the one coming to a stop first. The driver took it gracefully and invited the constable to take a ride to the station. Powell was only too willing and hopping up on the running board was about to climb into the tonneau. Suddenly he was confronted by a huge bulldog, who was evidently hungry for constable meat. The dog was in full possession of the tonneau and as the owner refused to call the dog off, or any other name for that matter, the constable was obliged to let his prey go. Powell was tripped up another time the same day when the arrested chauffeur hiked down the wrong road with the official and after getting some 2 miles away ordered Powell to hop out of the car. Powell pulled his gun, but this bluff didn't work, for the chauffeur took it away from him, finding it wasn't loaded, then assisted the minion of the law to the ground.

MOTOR CYCLE HILL-CLIMB

New York, May 14—It has been decided by the New York Motor Cycle Club to hold its fourth annual hill-climb May 30, using the Fort George hill. There will be three events, as follows: No. 1, for racing machines; there will be no restriction in this class other than weight of rider and horsepower of motor; No. 2, this event is for single-cylinder touring machines, and is for the novice who has a good hill-climbing motor; it is a good chance to compare one's speed with others; there will be no danger of collision, as riders run against time, and have the whole course to themselves; this applies to all the events; No. 3 is designed for machines that have power but not speed, and as a good test for the judgment of the riders, judgment in knowing how fast to start, so that the motor will keep going the whole hill. Should there be enough entries an event for tri-cars with passengers will be added. Entries to the climb close May 24.



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N.H. Van Acklen, Manager — Chas. P. Root, Editor

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SMACKS OF UNFAIRNESS

IT IS by no means a fair proposition on the part of the management of the 1906 Glidden tour to so arrange the rules of the affair that any car not weighing 2,000 pounds shall be excluded from competing for the trophy. The rule is defended upon the ground that any car under this weight is not essentially a touring car. Upon what basis this construction is placed is hard to imagine; it would appear to be a means of favoring those who are fortunate enough to possess large cars rather than to promote motoring in general and touring in particular. The owners of light four-passenger cars and runabouts will be justified in entering vigorous protests against the promulgation of any such rule and in giving the tour a cold shoulder in case the rule is enforced. The man with a runabout, taking his wife or his brother with him on a jaunt through the country, is as much a tourist as is the man with the car weighing 4,000 pounds fitted with a 60-horsepower motor, capable of carrying six or seven people and having all the comforts of a palace car. If it is the intention of the American Automobile Association to foster touring, in all the name implies, it is not going about the matter with any surety of interesting beginners. The promulgation of the rule as to weight savors somewhat of favoritism, whether intended so or not.

SEEKING ECONOMY

RESULTS of the recent efficiency test in New York have been so gratifying to the maker, the dealer and the owner that there has been a marked inclination on the part of all to seek the most for the least. It has been shown conclusively that an automobile need not be run at heavy cost for fuel—nor is this economy confined to one or two makes. It is true there was a vast difference between cars in the test, but nearly all cars that started made remarkable showings, illustrating what can be accomplished by care in adjustment, lubrication, cleanliness and driving. The test has opened immense possibilities and

has set people to pondering over the cost of operation, something the average owner of an automobile has seldom permitted to enter into his consideration so long as a machine would move and he had the money to supply gasoline and oil. The day of economy and careful driving has arrived and hereafter the prospective purchaser will not be satisfied with a mere statement that a car will do about so many miles to a gallon of gasoline—he will want to be shown. All this will bring about good results—it will make motoring cheaper and consequently more popular; it will prove a saving on machinery and it will enhance motoring in other ways. The man who is to be a motorist from this time on ought to know his car and its capabilities and he ought to know the cost of operation and how to reduce that cost to a minimum; he ought to know what others do and attempt to do better—that will make a successful motorist and help motoring in many ways.

HEEDLESS DRIVERS

THERE are good drivers and bad drivers—of automobiles and horses. In a city crowded with traffic of all sorts a bad driver is a menace, whether he is piloting an automobile or a horse. The worst part is the bad driver of either automobile or horse puts to fright both pedestrians and all other drivers and brings disrepute upon all of his class. In some cities street traffic is so carefully regulated that drivers are not permitted to make mistakes, even if they want to do so. In Chicago the drivers of all sorts of vehicles disregard all road rules and drive when and where they please. It is a common rule of the road that in overtaking a vehicle it shall be passed on the left side. In Chicago—on city streets and park boulevards—automobilists and drivers of horses disregard this rule and deliberately, carelessly and even recklessly, cut in between a slow-moving vehicle and the curb, risking bad acci-

dents and possible death to somebody. The average owner, the chauffeur, the automobile agent making demonstrations—nearly all resort to this dangerous practice at any or all times if it is more convenient to turn right rather than left. If a driver is ignorant of road rules, he is a dangerous person to be permitted on the streets; if he violates these rules deliberately, he has no business on the streets. In either case he has no defense. The demonstrator is the person above all who should not permit himself to have criticism of this sort brought against him; he should be the one to teach careful and correct driving and thus start his students upon the road with some idea of what is right and what is wrong. The agents themselves might do good work by observing the rules of the road and insisting that their employes do likewise; they might also be of benefit to the motoring community by endeavoring to show people what are and what are not correct methods in driving. What the "expert" does, the layman will do, and the public will judge accordingly.

MORE PROOF—AND CONVINCING

EVERY day brings new proof of the comparative harmless character of the automobile, and every day shows that the horse, the trolley car and other users of highways are as dangerous as ever. The report of the coroner of Brooklyn, just made public, shows that in 1905 but two people were killed in his territory by automobiles—less than 4 per cent of the number killed by horse-drawn vehicles and less than 2 per cent of the number of deaths caused by trolley cars. The automobile killed two, motor cycle none, steam cars fourteen, elevated trains eleven, horse-vehicles fifty-one. Even a baby carriage, mild as it looks, was responsible for one death, and a steam roller another; an automobile and a car were in collision and a death resulted; a buggy and a car also came together and a death resulted—an even break—and the coroner's evidence showed the automobilist to be free from blame. In the last decade there has been practically no attempt to eliminate the danger to the public that exists from trolley cars and horse-drawn vehicles—they are the same as they were then and the public is so used to them that it sort of likes the habit of being killed. It might be more modern if it took to being killed by automobiles. The automobile has been brought to its high state of efficiency in a few short years; its designers and makers and users are constantly seeking to improve it and make it free from danger—they are trying all the time, and this is the reason for the harmlessness of the motor car.





Megargel? Oh, he's the fellow who was expected in Chicago 4 weeks ago. Yes, he is still en route.

Wilkes Barre has made capital out of the hill climb. Now our best people use a capital B instead of spelling it Wilkes-barre.

If Mr. Glidden has toured 32,000 miles in thirty-two countries and wants to make 50,000 miles in fifty countries, will he run out of countries or not?

Motorists will be satisfied with the passage of the free alcohol bill, but a lot of other bills would be welcomed by motorists if they were free.

There is one redeeming feature about Isaac B. Potter—he is so busy getting out American Motor League tour maps that he hasn't time to scrap.

While the Chicago Automobile Dealers' Association is fighting the license and speed ordinances, the authorities are raking in the shekels from the sale of number plates and from fines paid by luckless motorists.

You own a car; you bought it this season; it is the latest creation. If you have to drive that car from now until Mr. Hearst coaxes congress to appropriate \$50,000,000 for good roads, what sort of a spectacle will you then make going about the streets?

The Week

Trouble expected over Vanderbilt cup race through apparent refusal of France to accept French nominations for the American event; entry blanks and rules governing conditions are issued; Joe Tracy may drive Oldsmobile.

Special committee appointed by American Automobile Association draft rules to govern competition for Glidden trophy; minimum weight limit is placed at 2,000 pounds.

Late advices give order of finish in Florida Targa race as follows: Cagno, Grazzzone, Bernet, de Caters, Lebbon; first, second and fourth drove Italas.

Mayor Tom Johnson, of Cleveland, threatens to discharge policemen shooting at tires on cars or trying to scare motorists by a display of firearms.

Supreme court of Pennsylvania upholds city of Philadelphia in license case and Philadelphia motorists must carry two tags—a city and a state.

Successful hill climbing program is run off at Wilkes Barre, Pa., English Daimler proving the star performer of the day.

A MOTOR PHOTO CARTOON



W. K. VANDERBILT, JR.

To tag or not to tag has been decided in Philadelphia. It is two tags.

Now, Senator Morgan, dig up another beach or hill, for you haven't had a new one for at least a fortnight.

A Glidden tour car which fails to carry 500 pounds of passengers must make up the deficiency with ballast. Gold bricks won't go, though.

Drivers of cars which broke down climbing Giant Despair at Wilkes Barre might call it Giant Repair. Senator Morgan would accept the amendment.

That Camden, N. J., justice who catches scorchers and tries them on the road while you wait, isn't any more accommodating than the justices of Chicago's north shore suburbs who keep open house Sundays.

France, in jollying herself into the belief that the grand prix is the only really truly international road race in the world is much like the ostrich which sticks its head into the sand and imagines it is hidden from view.

Ninety-nine times out of a hundred when there is an accident in Paris wherein the automobile is concerned, the pedestrian, the cyclist or the driver of a horse-drawn vehicle is taken in custody; once in a hundred times the automobilist is to blame. Reverse these figures and the situation as it exists in this country is described.

The decision of the Pennsylvania courts is a game of tag Philadelphia motorists do not like.

General Manager Miles of the National Association of Automobile Manufacturers has gone abroad—to cinch the show business there?

Evidently the get-rich-quick scheme has reached England, judging by reports of the flotations of the motor bus lines in that country.

The makers of pneumatic tires could not ask for a better recommendation for their goods than the report of the recent test of spring wheels, held in France.

If the American Automobile Association persists in freezing the little cars out of competing for the Glidden cup there will have to be a Glidden, Jr., cup and tour.

Maybe the result of the efficiency test had something to do with framing that rule to exclude any but 2,000-pound cars from competing for the Glidden trophy. Well, it might be just as well to give the big fellows a little show.

The A. L. A. M. is considering the matter of weights of tires and of standardizing the mechanical fastenings for automobile tires. It might be suggested that possibly the tire makers themselves will put in a word or two when it comes down to settling these points of construction.

Coming Events

May 13-24—Motor cycle tour of France, starting from Paris. Auto-Cycle Club of France.

May 15-25—Milan gold cup race, Milan, Italy. Italian Automobile Club.

May 15-31—Endurance run, Italy.

May 24, 25, 26—Open air show, New York. Automobile Trade Association. Empire City track.

May 27—French motor cycle eliminating race.

June 1-3—Electric vehicle competition, France.

June 6—New York Motor Club's orphan day.

June 9-15—Herkomer cup competition for touring cars, Germany and Austria.

June 13-14—Provincial cup touring car competition, France.

June 17-24—Week of Marseilles, France.

June 18-25—New York Motor Club's second annual economy test.

June 26-27—Grand prix race, Sarthe course, Automobile Club of France.

July 14-17—Automobile racing at Ostend, Belgium.

DRAFTS GLIDDEN TOUR RULES

Special Committee Appointed by American Automobile Association Prepares Laws—Minimum Weight Limit of Cars Placed at 2000 Pounds—Must Have Four Seats

Chicago, May 15—Rules for the American Automobile Association's tour for the Glidden trophy have been drafted by the special committee consisting of Sidney S. Gorham, L. E. Myers and F. B. Hower, but will not be declared official until the committee has a chance to communicate with the touring committee of the National Association of Automobile Manufacturers, which possibly may result in a few minor changes being made, although not many are expected.

Those who have had a chance to look over the rules as they are at present say there are innovations which will cause some comment. For instance, the committee has decided that no car weighing under 2,000 pounds is eligible to compete for the Glidden trophy; that each car must carry four passengers of an average weight of 125 pounds each or their equivalent in ballast, and that the cars must be fitted with touring car bodies with tonneau. The hour of starting in the morning has been changed and the time set for between 7 and 10 o'clock. In addition to the Glidden trophy itself, the committee has provided for a number of others in order to give everyone a chance. There will be eight of these: One for the club which provides the largest number of contestants in proportion to the total active membership of the club; one to the winner of a hill-climbing contest; one to the winner of a brake test; one to the winner of an obstacle race; one to the owner of the car coming the longest distance to enter the contest for the Glidden trophy; one to the car having the least tire trouble throughout the contest; one to the car which carries the heaviest load, exclusive of the weight of the car, during the entire contest from Buffalo to the end of the tour. In the way of a booby prize will be offered a trophy to the car which completes the tour from Buffalo on to Bretton Woods under the most adverse conditions and with the greatest number of tire and mechanical troubles.

In addition to these there will be special trophies for cars covering the entire route from Chicago to Buffalo, from Detroit to Buffalo and from Cleveland to Buffalo. In all probability there will be other special events during the tour. No car not in good standing at the time can compete in these extra contests.

Under the head of "entrants," it is held that the A. A. A.'s touring committee will settle all disputes and can alter or amend the rules from time to time as it sees fit. Each entrant must be a member of the A. A. A. or of a club recognized by it. Entries will close 1 week before the date set for the beginning of the contest,

the fee being \$50. Numbers will be issued in the order which the entries are received. The A. A. A. is absolved from all responsibility in case of accident and cannot be held for injury to car, passengers or contents, nor for any theft of any of the machines, parts or contents. The right to refuse any entry is reserved by the American Automobile Association.

"Touring conditions" state that each car must be driven by its owner or by a driver or drivers nominated by the owner and approved by the touring committee. Mufflers and mud guards must be used at all times and the cars otherwise equipped according to catalogue regulations. After a car is registered at a night stop no replacements or adjustment can be made until it is sent away the next morning. In other words, the contestant must do these things on his own running time and must use parts which he carries with him, an inventory of which must be furnished the committee and which must be verified by affidavit. An exception is made in the case of tires. Each contestant will have to file a sworn daily statement of the replacements and adjustments on each day's run, as well as the quantity of gasoline used. Any irregularity or omission is cause for disqualification. The arrest of an owner or driver for a violation of any speed limits or law or ordinance will also disqualify the car—if the committee wishes to take such action.

In fixing the minimum weight limit at 2,000 pounds without passengers, the rules say weight will not be considered in awarding the other trophies. Official numbers will be carried on each side of the car, or on front and rear. Advertising matter will be barred and nothing but the name plate usually attached when a rig is sold to a private owner will be permitted.

Starting between 7 and 10 a. m. each day, each contestant will be required to sign a statement giving the time of his departure from each control. A pacemaker to be appointed by the committee will set the pace and anyone passing him will be disqualified. In case of an accident to the pacemaker the flag will be transferred to the first car overtaking him. Upon the arrival at night the owner will register and the car will be in the custody of the tour officials at the owner's risk until the next morning.

In case the tour is finished and there is doubt as to which car is the winner, the committee will arrange a special contest in the way of a hill-climb or tour for the machines under discussion. In awarding the Glidden trophy the committee will give credit to the winner for its performance

as a touring car, since the test is for the purpose of determining the touring qualifications. In order to secure the total mileage of 1,000 miles, the committee will have one or two special runs during the tour. The contest for the Glidden trophy will start at Buffalo. Each entrant who successfully completes the tour will receive a certificate from the A. A. A.

After a car has been disqualified by the committee its official number will be removed and it will be out of the contest. No award or certificate will be given it and the fact will be spread upon the records. There can be no disqualification, however, until the person in charge of the car in question has had a chance to deny the charges preferred and testimony taken. Action cannot be taken by the disqualified motorist against the A. A. A. or any members of the committee.

To protest a car costs \$10, which will go into the A. A. A. coffers in case the protest is not sustained. The protests must be in writing and the committee will act at the very earliest opportunity it has. Contesting of entries must be made before the tour starts and protests as to unfair running, route, etc., within 24 hours after the occurrence. Other protests must be made during or immediately after the tour is completed and before the award is made.

The power of the touring committee is well defined. It has the right to disqualify any car going at a speed which the committee deems excessive under the conditions existing at that time without reference to the rules. Cars may be entered and their contents examined as the committee so desires.

Chairman Sidney S. Gorham has partially made up his A. A. A. law committee, thirteen members having been selected as follows: Osborne Yellott, Baltimore Automobile Club; H. H. Johnson, Cleveland Automobile Club; James F. Drought, Milwaukee Automobile Club; W. H. Chase, Wachusett Automobile Club; W. R. Hickox, Kankakee Automobile Club; Jacob J. Seeds, Philadelphia Automobile Club; W. P. Richardson, Long Island Automobile Club; A. H. Darnell, Atlantic City Automobile Club; C. H. Burras, Austin Automobile Club, Chicago; F. W. Battershall, Albany Automobile Club; F. E. Hurtubis, Jr., Massachusetts State Automobile Association; S. P. Irwin, Bloomington Automobile Association; Frank B. Finney, Portsmouth, O.

BALK ON ROAD TOLL

Syracuse, N. Y., May 14—The Automobile Club of Syracuse has taken steps to compel a better maintenance of toll roads in Onondaga county. The toll roads in this section are almost impassable, yet the motorists are compelled to pay toll which averages 4-10 cent a mile. They are willing to pay as long as the roads are kept in repair, but will refuse while they are in the present condition. A test case will be made. A resolution was adopted

to the effect that the club would cooperate with the police in bringing about a stricter observance of rules of traffic in the city. It is desired that all drivers be impressed with the necessity of keeping to the right and going around curves and approaching watering troughs in the proper manner. The club will ask the street railroad officials to instruct motormen to use their gongs when approaching street crossings and curves. The club will put up large danger signs with white background and blue letters on Camillus hill. Before the Glidden tour in June the club will have mileage and danger signs south to Cortland, east to Canastota, west to Auburn and north to Oswego and Pulaski.

NEW BUSINESS METHODS

Denver, May 11—So keen is the rivalry between automobile dealers in Denver, according to testimony in the west side criminal court last week, that detectives figure largely in sales. One detective, Fred J. Nugent, played such a part in a controversy with George Hannan, a well-known dealer, over a sale, that Nugent was tried for assault with intent to kill Hannan and fined \$100. Dr. F. E. Eekerson was to buy an automobile. Hannan and another dealer were both trying for the sale. Nugent, who claimed to be doing gum-shoe work for an opposition dealer, invited Hannan to his room and tried to learn why Hannan was successful in the sale. Nugent testified that Hannan was so enraged at what was said that he grabbed a beer bottle hard by and shied it at the detective. Nugent admitted defending himself with a piece of iron pipe. Both men were badly damaged, but the detective, according to both stories, got no information. Instead he got the fine of \$100 and a warning to confine his Sherlock Holmes methods to some other business than trying to learn automobile dealers' secrets.

BAG OF BIG ENTRY

Paris, May 2—The lists for the grand prix at the ordinary entrance fee of \$1,000 have now closed, and there are thirty-four engaged cars. The fact that no British or American cars are engaged for this race is a disappointment in sporting circles here, and it is not expected that any will come forward, as such practical sportsmen as these would not have waited until a double entrance fee was exacted before nominating their champions. In fact, from the remarks made last season by certain English firms regarding racing events, a deal of surprise is felt that no firms from across the channel have thought fit to enter, this being due to the influence of the Automobile Club of Great Britain and Ireland. However, the number of cars engaged is the largest since the great races from capital to capital were abolished and cars named by firms instead of by individual sportsmen. In the grand prix three makers will start out on their racing career—Itala, Gagoire and Vulpes, the last two named new French automobile firms.

AS HEARST PLANS IT

Representative Would Have Government Pay Half of Cost of National Good Roads.

Washington, D. C., May 12—Representative Hearst's good roads bill is designed to "promote the construction of a national system of good roads, facilitate the extension of the postal service, and lessen the dependence of the agricultural and industrial interests of the country upon the railroads for transportation." Under the terms of the bill any state or territory, or any county thereof, which shall have authorized and undertaken, subject to plans and specifications filed with and duly approved by the secretary of agriculture, the construction or reconstruction of more than 10 miles of public road outside the limits of any city or incorporated village, shall be entitled to receive out of the federal treasury, under certain conditions, one-half the cost thereof. The secretary of agriculture shall sign warrants for such payments only after it has been established to his satisfaction that the road for assistance in whose construction claim is made is of sufficient public importance to come within the purview of the proposed law, taking into account its use, location, and value as a main market road, a mail route, and as an integral part of a national system of good roads; that the state, territory, or county claiming payment, has made suitable and adequate provision for the payment of one-half the cost of the entire construction or improvement authorized and undertaken, and for the permanent maintenance thereof without recourse to the United States; that the work has been done in accordance with the approved plans and specifications and at the cost claimed.

The bill also provides that no payment shall be made except as the work of actual construction progresses, and in no case shall the payment or payments made by the United States in advance of the final completion of a road, for assistance in whose construction claim is made, exceed 40 per centum of the cost of the work then actually completed. The secretary of agriculture is given authority to employ the necessary engineers, inspectors and clerks, and to make such rules and regulations as may be necessary to carry the proposed law into effect.

The sum of \$50,000,000 is appropriated by the bill, with the provision that not more than \$10,000,000 shall be expended in any year. Such sum shall be apportioned among the states and territories from which claims are received in proportion that the population of the several states and territories, reckoned according to the last federal census, bears to the total population of the United States. If the claims from any state or territory are for a sum less than the sum to which the state or

territory is entitled, the surplus is to be apportioned among the other states or territories from which claims are received in proportion that their population bears to the total population of the states and territories from which claims are received, as nearly as practicable, so as to render available in each year the whole sum of \$10,000,000. In the event of its enactment the proposed law is to take effect immediately.

WHEEL TEST DISAPPOINTS

Paris, May 1—The spring wheels which completed the trip of 1,300 miles from Paris to Nice and return, in stages extending over 8 days, were on view for a day and attracted a deal of interest. The result of the test has been to eliminate the pretensions of wheels relying on metal springs and to uphold the qualities of rubber, for the three types of wheels finishing the trials within the given time were all rendered elastic by means of rubber cushions placed either at the periphery, as in the Edmond Levy or Soleil and Garchy wheels. The jurymen, among whom were Perisse, Desgranges, Ravigneux, Lefevre and Ferrus, all well known sportsmen, the last named making a report on this very test for the Milan automobile congress, have awarded the Chantemerle challenge to these three wheels for 1 year. The Garchy, which sustained the greatest weight of any of the competitors—4,690 pounds—made a good showing and only for an unfortunate accident to one of the axles would have made the good average of nearly 31 miles per hour. But the same may be said of several other competing cars. The delays and breakdowns were not due to accidents to the wheels. These wheels are thought to have a future on heavy cars and vans, but their rather necessary weight precludes their consideration for the lighter cars. The heavier tourist car, however, would not be under any disadvantage in adopting them, it is contended by the spring wheel critics.

EARLY BIRDS IN BUFFALO

Buffalo, May 14—H. H. Meyers, of Duluth, on his way to the Zenith City by automobile, arrived here on Friday. He was mud-bespattered, but hearty and vigorous. He was accompanied by his family. "It does not make any particular difference how long it takes us to get to Duluth," said Mr. Meyers, "and despite the mud we are having a delightful time." Following close upon the arrival of Mr. Meyers, another machine, just as muddy, arrived, and P. Leadley and party, of Toronto, stepped out. "We came here to attend the theater," said Mr. Leadley. "There is nothing exciting about taking a trip by train from Toronto, so the women packed their evening gowns in the side baskets, we put our duds in cases and started this morning in the machine. The roads are bogs and the going is terrible, but the journey was a bully one."

TRADE LOSS ON COAST

From Los Angeles Comes More Details of Damage Done by Fire and Earthquake

Los Angeles, Cal., May 8—Motorists here are 500 miles from San Francisco, but they are in touch with the automobile game there. Some of the automobile establishments were lucky enough to get most of their machines away from their salesrooms and garages before the fire reached them. Probably the Rambler branch suffered the worst, as it had a big stock of cars on hand, having lately received sixty-one in a single shipment. It had so many cars on hand in San Francisco that it could not keep them all in its place of business and had part of them stored in a warehouse on Bluxome street and two carloads were still in the freight yard.

The Pope-Toledo Touring Car Co., at 148 Golden Gate avenue, had better luck than many, as most of the cars were taken out early Wednesday morning from this shop and placed in Golden Gate park. Some fifty big cars owned by private parties were gotten out promptly, so that none was lost by fire, although many were taken possession of later by the city and military officials.

The building occupied by the Pioneer Motor Car Co. for the sale of Wintons, Thomas, Stevens-Duryea and Olds, and for garage, repairs, etc., claimed to be the largest automobile building in America, went down in the early fire but previously to that all the cars had been removed. Many were taken early Wednesday down the peninsula to San Mateo and others hidden in Golden Gate park, but most of the cars from the garage fell into the hands of the public officials.

The Pope-Toledo people, who also had the agency of the Franklin, did not have many new cars on hand; in fact, probably not more than three Franklins. All of these were early taken to the park.

Among the unlucky ones were J. W. Leavitt & Co., at 309 Larkin street. Most of their cars were in the basement and as the first shock destroyed the elevator power, it was almost impossible to get the cars out of the basement. After 3 hours' work one car was rescued. There were three cars on the main floor and Jack Leavitt made a present of these three cars to the mayor, the police and government early Wednesday morning.

The Ford agency had a number of machines also in a basement, and as its hydraulic elevator was put out of commission by the first shock its cars in the basement had to burn. On the floor were four Soules trucks, three model F Ford cars and a big Aeme. Two of these Fords and one Soules truck were taken out to the park, but the delivery truck and one Ford were immediately seized by the police and are still being used by them.

The Standard Motor Car Co. purchased a garage in Oakland belonging to its Alameda county agent, and opened up business there. Many of the automobile establishments already have resumed business in Oakland and have stock on the way from the east.

The annihilation of the San Francisco automobile trade was almost complete but there were many new cars on the way there and much of this stock was diverted to Los Angeles, which has been of great help to the dealers here who could not get cars fast enough to hold customers that had already made deposits. Among the lucky ones here was L. T. Shettler, the Reo agent, who, on this account, has for the first time this year secured stock enough to catch up with orders.

The tire concerns, being well downtown in Frisco, were in the line of the first fires and few had time to get any stock out. The fire did not reach the garages till the second and third day.

In San Jose the new garage of the Letcher Auto Co. lost its front wall at the first shock.

ALUMINUM PRODUCTION

Washington, D. C., May 11—As the demand for aluminum in connection with automobiles is growing, some details about aluminum production gleaned from an official report, are of interest, especially to body builders. The production of aluminum has not increased as rapidly as was anticipated some years ago—in Europe it was practically stationary in 1905. In 1904 the production was stated to be 4,500 tons and that for last year is said to vary little from those figures. A large increase this year is probable. An American inventor named Betts patented during 1905 a process for refining aluminum by electrolysis. This depends upon the use of the impure alloy of the light metal as anode, in a bath of molten cryolite, containing alumina in solution, while pure aluminum forms the cathode. All the materials in this bath are kept in the molten state, and the three components are maintained in their respective positions by their different specific gravities, the impure alloy being the heaviest and the pure aluminum the lightest of the constituents of the bath. Aluminum can be parted from iron, silicon, copper and other impurities by this method.

PLANS OF THE BISONS

Buffalo, May 13—Herbert A. Meldrum, the president of the Buffalo Automobile Club, has planned a formal opening of the season by a parade through some of the principal streets of the city, followed by a run to some place in the country yet to be agreed upon. A second feature will be the free automobile ride for the orphans. The third big event will be a parade of decorated automobiles, probably at night. The orphans' run will be held in July or August, the club secretary announces.

ROAD TIP BY GODDARD

Cleveland Club's New Secretary Shocked by Recent Experiences on Ohio Highways

Cleveland, May 12—Asa Goddard, who has come from Massachusetts to the wild and woolly west to show us how to build good roads, and incidentally to become secretary of the Cleveland Automobile Club, had his first introduction to the roads of northern Ohio a while back when he attempted to navigate to Willoughby over the main east and west highway from New York to Chicago. He has since been throwing up his hands in horror every time the word "highway" is mentioned by a Clevelander. But he has taken off his coat and is getting down to work with a firm determination to better the conditions if it is possible to make any impression upon the heathen in this district.

"The Ohio practice became obsolete 30 years ago," said Goddard. "In this state the work is done by the commissioners of the various counties. I notice that this year the state appropriated \$150,000 for road building. Each county in the state gets \$1,704 for each year; one-fourth of the amount that may be expended annually for the betterment of roads. The county bears one-half of the expense, the township 10 per cent and the fronting property 15 per cent, the other quarter being borne by the state. I understand property owners are allowed to work out their 15 per cent and may also do additional work which applies on their taxes. The usual practice with this system is to plow up and scrape the sides of the road and throw the dirt and sod into the center of the road. One man does his work when it is most convenient and the next man does it some other time. In some places the drivers keep to the sides because the center is rough and in other places they drive in the center because the sides have not been touched lately. There is no system or order about it. Farmers who are lazy and careless do just as little work as possible, even though they may claim to put in the time. The roads are improperly drained or not drained at all, and in the majority of counties the county commissioners do not know the first rudiments of road building, and even if they do, a large proportion of them do not give the matter proper attention.

"Some of the Ohio counties, Cuyahoga county, in which Cleveland is located, especially, have been doing a great deal of brick paving on the country roads. The pavement is from 10 to 15 feet wide and it makes a fine road when it is properly put down with a good foundation, but it is very expensive, and I doubt if it will wear long enough to make it a profitable investment. I believe several miles of good macadam road can be built for what it costs to build 1 mile of brick pavement,

and there is no limit to its life if it is properly maintained. The lack of uniformity is the great fault with the Ohio system. One county takes an interest in the work and spends large amounts in road building and the next county spends as little as possible. A tourist starts out on a fine stretch of road and when he strikes the county line he drops off into the other extreme."

"I was astonished to learn," continued Goddard, "that dozens of our club members have never been outside of the city in their machines. Some of them look upon a 20 or 30-mile spin as quite an undertaking, while 100 miles is looked upon as a tour by some Clevelanders. The main streets and boulevards here are beautiful, but to my notion the joys of automobiling are only understood by the man who gets out into the country just as often as possible."

IMPORTS MORE THAN EXPORTS

Washington, D. C., May 11—Some details about the automobile trade in the United Kingdom are just to hand, from which it is learned that while some authorities claim that last year the imports exceeded the home production, careful inquiries seem to negative this. So far as can be ascertained the United Kingdom made about 16,000 cars of all grades during 1905, worth about \$20,000,000. With parts and motor cycles added, the total value is brought up to \$25,000,000. During the same period the imports amounted to \$17,234,830 worth, while \$1,719,180 worth were reexported. The real exports reached \$2,720,140. The total value of the English home market for last year was thus about \$39,000,000, of which foreigners took nearly half. The imports last year increased \$5,000,000 over 1904, and were nearly twice as great as in 1903. Foreigners seem to be doing a good business in the United Kingdom in the sale of automobiles. During January and February of this year the exports of automobiles from the United Kingdom were valued at \$560,000, which is an advance of nearly 100 per cent over the figures for the same period of last year. But roughly speaking, the United Kingdom is exporting in automobiles only one-sixth in value of what it is importing, but whereas the average value of each imported car is about \$2,100, the cars which are exported are valued at only about \$1,500. That difference is attributed largely to the motor omnibuses which are imported in large numbers for use in London. It is estimated that the home market will be worth \$50,000,000 this year in automobiles.

FINE SHOWING BY ITALY

New York, May 15—Later advices from Paris state that in the Florio Targa race run in Sicily and won by Cagno in an Itala, Grazzione, in the same make of car, finished second; Bernet was third, and Baron de Caters, in a third Itala, was fourth. Lebbon, Hotchkiss, was fifth.

NAPIER IN STOCK DEAL

Announcement Made That Business of Well-Known English Builders is to Be Floated

London, May 5—The principal item of news this week is the announcement that the business of D. Napier & Son is about to be floated. Napier & Son are often confounded with S. F. Edge, Ltd., but in reality the two are distant, although both are practically owned by the same people. Napier & Son are the actual designers and builders of all the Napier cars, S. F. Edge being exclusive concessionaire for the sale of those cars. At the moment it is not known what the capitalization figures are likely to be, but they will be something very large, probably in the region of about \$1,000,000. The works at Acton cover about 4 acres and are conceded to be the most modern and best equipped of all the British factories solely devoted to motor car construction. At the present time little outside money is coming into these ventures. It is believed that not a great deal of it will go into the Napier flotation; but all the clients of S. F. Edge, Ltd., are extremely wealthy people and it is probable that from them quite the most part of any subscribed capital will come.

It is a curious thing that the British investing public seems to have no confidence in, or, at least, it does not support with its money, the pleasure motor car portion of the trade. But anything in the way of a London motor bus scheme, however unsound at the bottom, creates excitement and does not fail to draw capital which is badly wanted in the manufacturing side, thus the Electrobus flotation, despite the fact that it was heavily slanged by the technical papers, managed to secure in 1 day \$400,000 in subscriptions from people who had not read the damaging criticisms. The lawyers are now busy all round endeavoring to obtain for these unfortunates a rescission of their contracts and return of their money. Some how-d' do is being raised over the appearance of the names of prominent officials of the British automobile club on some of these prospectuses, and in all probability steps will be taken by the club to prevent this in future.

Last week another bus company was floated for \$800,000. It was practically the first sale of a horse company's business to a motor syndicate, but as the motor syndicate in this instance is represented by the owner of the horse buses the nature of the deal may be easily seen. Most of the horse bus companies in London belong to a ring which pools the receipts and divides the profits on a set scale. These companies profess to have a "right" to the traffic on London bus routes and are deeply incensed at the hardihood of motor bus companies working along their routes, and refusing to either

pay for their footing or pool their earnings. Consequently if this last deal has gone off satisfactorily we may expect to see a dozen other members of the ring endeavoring to secure a similarly satisfactory get-out. The horse bus is doomed, that is very certain, and smart men are endeavoring to sell the rights of running their buses before those rights lose their entire commercial value. At the present time the capitalization of motor bus companies for London amounts to over three and one-half million dollars issued capital, with a computed equipment of close on to 2,000 motor buses when they are secured, so the horse bus looks to have a very cold time ahead.

VANADIUM STEEL MAKING

Washington, D. C., May 12—One of the technical branches of the federal government has received some information about a paper on vanadium steel making, contributed by J. Kent Smith to the Liverpool, England, section of the Society of Chemical Industry at a recent meeting. It appears that a Queensberry firm is now producing special steel alloys at the rate of 800 tons per annum. The ferrovanadium used for the manufacture of these special alloys was obtained from the Llanely works in New South Wales, and contained up to 30 per cent of vanadium. The chrome-vanadium steels were those which showed the most remarkable properties, and these contained from 10 to 20 per cent vanadium. Chrome-vanadium steel has been exported to France, although an import duty of about \$25 per ton has to be paid upon it. The effect of vanadium upon ternary and quaternary steels is to increase the resistance of both static and dynamic tests, a result which is partly due, in the opinion of Kent Smith, to the action of the metal in retarding the segregation of the carbides during cooling. The highest test yet obtained from a chrome-vanadium steel, after special heat treatment, was a maximum breaking strain test of 103 tons per square inch; this steel showing at the same time great resistance to dynamic and torsional tests. This is a combination of properties which has never been obtained before, and is the peculiar feature of the chrome-vanadium steels.

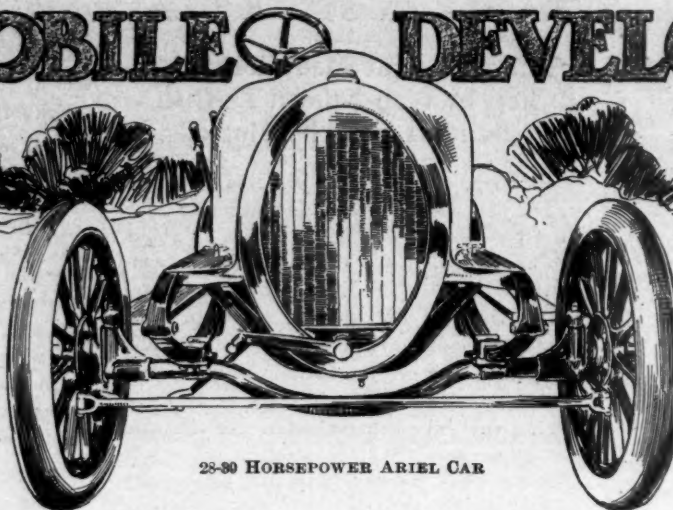
FIFTY-FIVE EXHIBITORS

New York, May 15—Thirty-four exhibitors of motor cars and twenty-one of accessories have taken shares for the open-air show and carnival to be promoted by the New York Automobile Trade Association at Empire City track on Thursday, Friday and Saturday of next week. But nineteen spaces remain untaken. Entries for the various tests to be run during the carnival will close tomorrow. It is now an open secret that the American Motor Car Manufacturers' Association contemplates holding an open-air show in or near this city next autumn. A well known race meet promoter has been approached to manage it, it is now reported.

AUTOMOBILE DEVELOPMENT

ARIEL CAR

28-30
Horsepower



28-30 HORSEPOWER ARIEL CAR

ALTHOUGH having been manufactured for 3 successive years, the Ariel car, built by the Ariel Co., of Bridgeport, Conn., is not so familiar to the general public as many of the other cars placed on the market at that time. Its field of operation has been largely confined to the east and it has not been manufactured in large numbers. Notwithstanding this small locality of operation, the car is replete with many points of novelty and possesses mechanical constructions unique with itself. Most of these innovations have been well tried out and have proven equal to the task for which they are intended. The four-cylinder motor, has each cylinder a separate vertical casting A, with the head, wall and waterjacket formed in one casting and the head and waterjacketed portion resembling a large globe part resting on the cylinder sleeve. Valve ports, owing to the placing of the inlet and exhaust valves in the heads, are not needed. Last, but by no means least, the carrying of the camshaft on the top of the motor evidences design that is now attracting such a leader in car construction as the Mercedes company in Germany, and which has been followed in America by the Welch and one or two other factories.

The end view of the motor shows the two-part, cigar-shaped crankcase, divided horizontally into an upper and lower portion, the former N directly supporting the four cylinders, and the lower carrying the five phosphor bronze bearings of the crankshaft. The lower portion is divided by cross bridges into four compartments, one for each cylinder. In this way the back and forward splashing of the oil for the splash is avoided. In the base of the case beneath each cylinder is a circular hand hole for the adjustment of any of the connecting rods. Instead of having long laterally-projecting arms for supporting the crankcase, four very short feet, two of which, marked P, are used. These feet rest on the dropped crosspiece of the main frame and so avoid either the necessity of a subframe or heavy motor arms.

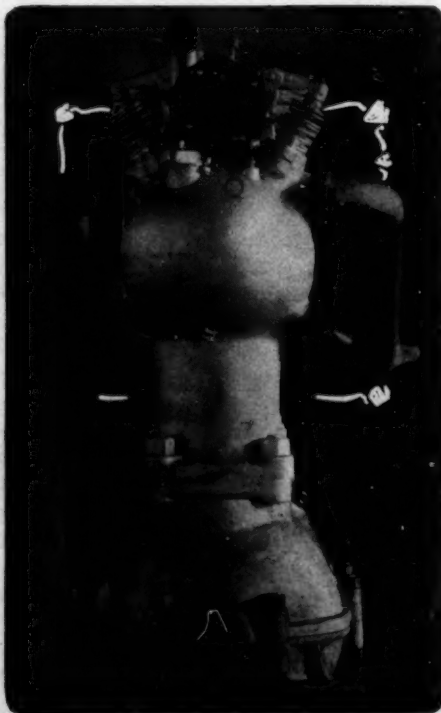
All valve cages for the inlet and exhaust valves are mounted at a slight angle and are held by a pair of bolts H to the top portion of the cylinder casting. Locating the valves in this position brings up the now much mooted question among gasoline engine designers of the best shape of a combustion chamber. The

Ariel company apparently prefers the cylindrical combustion chamber, so a quick and complete explosion of the mixture is obtained. This style of a combustion chamber is easily obtained by using this peculiar design of cylinder head and waterjacket, as there is ample room for the valves and the spark plugs, as well as all of the water connections. Inlet pipes M on the right side are of aluminum, made in three parts; a V piece, rising from the Holley carbureter, carried low at the side of the motor and two horizontal V pieces, as well, as one for the two front and the other for the two rear cylinders. The exhaust manifold K, of cast iron, is a one-piece tube, sloping gradually from the exhaust valve of the front cylinder to the bottom of the rear cylinder, thus avoiding bends in any part of it. Midway of these points it is joined by three large tubings from the remaining cylinders. Actuation of the valves brings into use a camshaft E above the tops of the cylinders. Drive

for this shaft is from the rear end of the crankshaft, which carries a bevel gear, secured to the front side of the flywheel. This bevel meshes with one on the bottom of the vertical shaft C rising beside the rear cylinder. On the top of this shaft is another bevel meshing with one on the back end of the camshaft. Both of these gears are enclosed in a bronze housing X. The housing is split horizontally, with the upper half removable for inspection purposes. Four split bronze bushings, one on top of each cylinder, carry the shaft. On each bearing box is an oiler. Hardened steel cams, pinned in position on the shaft, operate sets of rocker arms F, one for each valve. In the ends of these arms, on which the cams bear, are hardened pins, carrying hardened rollers, the general use of hardened metal being to avoid wear and so eliminate the danger of the valves becoming mistimed. For any timing adjustments screws in the ends of the rocker arms bearing on the valve stems are provided. These adjustments are maintained by a locknut. The rocker arms F are supported by vertical supports G, made integral with the valve housing. In removing any valve it is only necessary to take off the nuts H securing the cages in position. Then the valve cage, valve and rocker arms come off as a unit.

Standard design is followed within the cylinders. The pistons carry three eccentric compression rings, all free to rotate in their grooves; the wrist pins are of hardened steel, working in bronze bearings; connecting rods are drop forgings, with bronze caps at the crankshaft ends, and the crankshaft is a five-bearing drop steel forging.

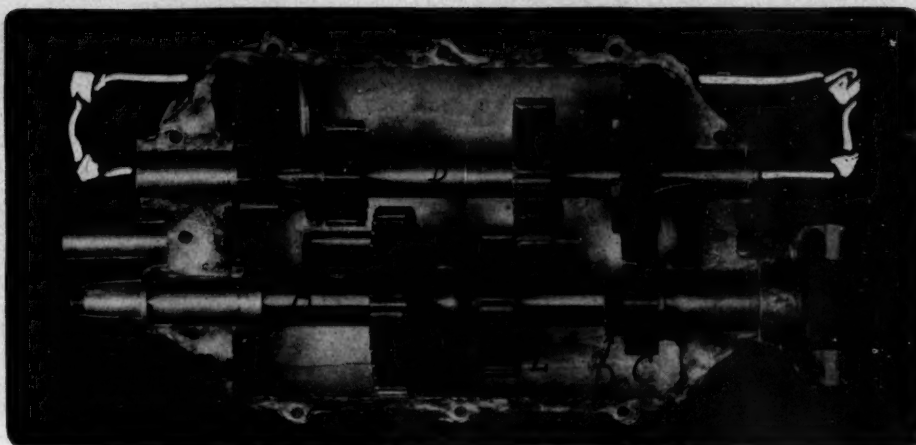
For cooling purposes the water circulation system is maintained by a pump D, peculiarly located above the flywheel and on the vertical rod C, which rises from the end of the crankshaft for driving the camshaft. The pump casting D surrounds this shaft. The pump-circulating part being keyed to the shaft a positive action is assured. From the pump a copper pipe S connects with the waterjackets at the left, it having a union with each jacket just beneath the entrance of the exhaust pipe. The other opening of the pump has copper piping with the base of the oval-shaped cellular radiator. The return flow is from the top of the cylinders to the top of the radiator. A ball-bearing, belt-driven fan is carried in the rear of the radiator.



END VIEW ARIEL MOTOR

Jump spark principles are used in the ignition part of the motor. Spark plugs are obliquely placed in the cylinder heads, the openings J being for this purpose. Distribution of the current is by a roller type of commutator, carried on the forward end of the camshaft and shown at Q. The arm R of the commutator casing has connection with the finger lever on the steering wheel for altering the time of the spark. Looking at the commutator, lines identical with LaCoste design are noted. The roller for making the contact is carried on one end of a curved arm, the center of which arm is pivoted to a lug, secured to a collar on the end of the camshaft. A spiral spring assures the certain contact of the roller on the four contact blocks. Both high tension wires to the plugs and the primary wires are carried in a fibre tube alongside of the motor. Other parts of the system are a three-cell storage battery, quadruple vibrator coil on the dash, and cutout switches.

At every point the reader is struck by the aim at simplicity shown in so many parts of this motor. In it there are only three revolving shafts—the crankshaft, the only member within the crankcase, the camshaft and the vertical rod driving the camshaft. By simple construction, separate shafts and gears for the pump and commutator are avoided. In making inspections the connecting rods are reached through the hand holes in the base of the crankcase, the base of the case not being removable, as in most of the modern types of motors; the camshaft with all of its parts is on top and can be seen in an instant and any valve is removed by the taking off of a couple of nuts. For lubrication a two-feed lubricator suffices. These two leads are subdivided into four branches, making in all four leads that connect with the four compartments of

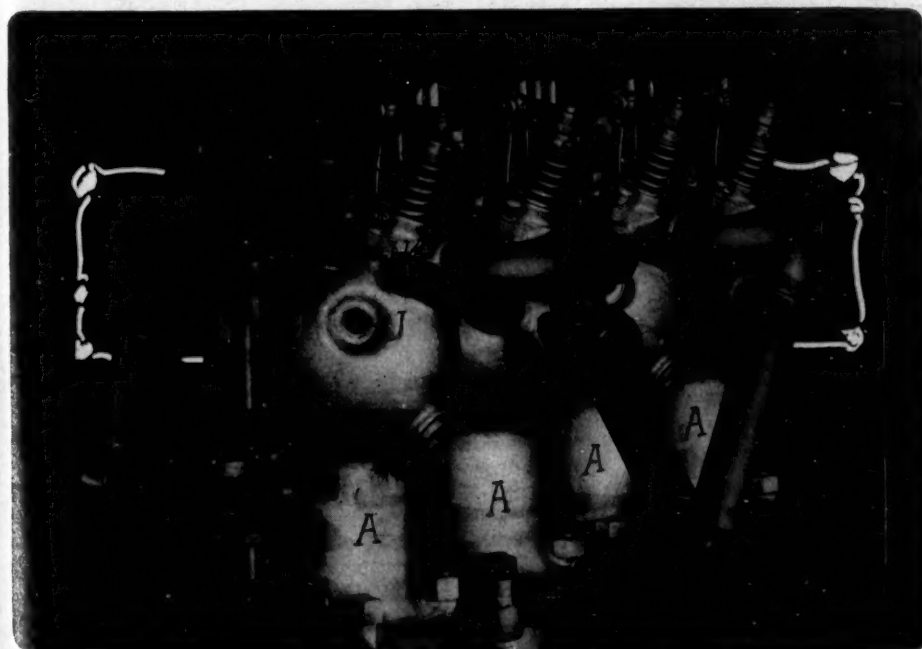


SLIDING GEARSET USED IN ARIEL CAR

the crankcase, from which the crankshaft, connecting rods, and pistons are lubricated by the splash. The oiler drive is novel in that it is from the rear end of the camshaft, through a spring coupling, so designed that any reverse motion is not communicated to the oiler, it being in this manner insured against back pressure injury.

Flexible connection between the motor and gearset is through a leather-faced, aluminum, cone clutch, the female portion of which is the recessed rear side of the flywheel, which wheel is attached to the crankshaft by a taper fit and key. The cone surface is beveled 10 degrees and the clutch spring surrounds the projection of the crankshaft. Between the clutch and gearset is a jaw coupling. The transmission follows the type of sliding gears and gives three speeds ahead and one for reversing, all controlled through one lever, working in a notched quadrant at the right of the car. The direct speed is gained not by internal gears or dental face teeth, but by slipping the sliding gears E

to the front over the squared sleeve end of the master gear C, the unit E having a square receptacle for receiving the part of the gear D. Keys and other locking devices are entirely eliminated in the case. This is accomplished by making the main shaft A in square section and having the sliding gears E fitted to a square sleeve. On the countershaft B are integral flanges, to which the two larger gears on the shaft are bolted, the two smaller gears being made integral with the shaft. Both main and countershaft are made of .18 carbon steel; all gears are of six pitch, 1½-inch face, and are made from hardened steel with the edges beveled, to facilitate engagement. Both shafts revolve on phosphor bronze bearings, carried between the upper and lower halves of the nickel aluminum casing, which, like the crankcase, is carried on dropped cross pieces of the frame, the base of the case having four short integral feet for resting on these pieces. The positions of the lever for changing speeds are reverse, first, second, neutral and direct drive, the neutral being placed between the second and direct drive position, as the second speed is generally used in starting the car. An interlocking mechanism to prevent shifting of the gears without the clutch removed is installed. The gear-shifting rod is carried in the bottom of the case and it connects by a double-armed lever and link to an arm depending from the shaft of the shifting lever. To this double armed lever is attached a flanged sector, in the flange of which are holes, one for each speed, and into which a pin operated by the clutch shifting mechanism engages. The clutch can only be engaged when the sector is in a definite position, so this pin is in the direct path of one of the holes and which means that the desired gear is completely in mesh. Transmission to the back axle is by a double-jointed propeller shaft. The back axle construction, of standard tubular lines, has the two shafts to the road wheels carried on ⅝-inch ball bearings. The reduction of the bevels from the propeller shaft to the differential is three and two-thirds to one; on the second



SIDE VIEW ARIEL MOTOR SHOWING INTAKE PIPING



ARIEL GEARSET DISSEMBLED, SHOWING ALL WORKING PARTS AND CASE

speed ahead the reduction between the motor and back axle is in a graded proportion. The spur gear differential is encased in a large housing, the top half of which is removable, owing to a horizontal split in the casting slightly above the axle line. Because of this the differential and both of the axle drive shafts can be taken out without taking off the axle tubing. A torsion rod aids in taking the strain off the propeller shaft. Radius rods are also used, connecting between the frame side pieces and the blocks on which the back springs connect.

Braking is by two independent systems. The pedal brake, interconnected with the clutch, is a contacting device, working on a steel drum, surrounding the propeller shaft immediately in rear of the gear box. It consists of two bronze sectors, pivoted on a shaft extending from the rear end of the gearcase and contracted on the drum by a lever mechanism. For emergency uses are two expanding brakes within hub drums on the rear wheels. They are lever-applied and do not interconnect with the clutch. The expanding parts are bronze sectors, which contact direct with the interior of the steel drums.

In the Ariel running gear a framework of pressed steel pieces, of channel section, is used. These side pieces, with a central depth of 4 inches and made from 5-32-inch stock, are straight from end to end, not being offset alongside of the motor, and held together by one cross piece at the rear, which is the only piece serving solely as a tying member. There are four other cross pieces, two of which carry the motor. The other two perform a similar service for the gear box. All four are heavily dropped, so as to throw these parts as low as possible, giving a low center of gravity. Spring suspension in front is by a pair of semi-elliptics and in the rear two full elliptics carry the frame. The elliptics are attached beneath the axle and have a pivotal con-

nection with the frame pieces on top. The radius rods, already referred to, take all pulling strain off them, their duty being that of lending elasticity. The front axle is a manganese bronze piece of I-section. Elliott type of steering knuckles are used; steering is through a nut and screw type of gear; wheels measure 32 inches in diameter, tires $3\frac{1}{2}$ inches; the wheelbase is 100 inches and the weight slightly over 1,900 pounds.

The Ariel body is of the side entrance variety, accommodates five passengers and is conspicuous by its straight lines. The bonnet is strapped in position; a running board connects the front and rear fenders; the tops of the front and rear seats are almost on a level; a hollow metal dash is used, and upholstery is of the tufted variety.

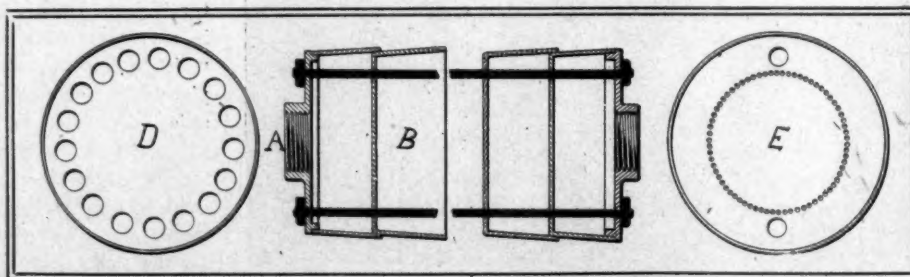
POWELL MUFFLER AND TIMER

The Powell Muffler & Timer Co., Utica, N. Y., in its timer uses double contact for each terminal and also a blade-revolving contact. This blade, shown at H, in a view of the timer, one-half being in section, passes between the two plungers D and C. From these the current goes out by way of the terminal B. Should the plunger D fail to work by reason of the coil spring behind it not pushing it out sufficiently far to contact with the blade H when it passes, then there is left the opposite plunger C, which is pushed out of its socket by a similar spring, thus making the contact. Both of the plungers C and D are electrically connected with the terminal B. These plungers are rounded on the opposing ends so the action of the blade H, in making the contact, consists in entering between them and

thrusting them slightly back into their sockets. Immediately the blade has passed, the coil springs in the ends of the sockets force the plungers out again, having them ready for the next revolutions of the blade. Using a blade-revolving contact of this type insures absolute absence of vibration in it so it never fails to contact with the plungers. Having a double set of plungers the danger of miss-firing is minimized. In the construction of the timer it is seen that shaft A, presumably the cam or half-time shaft of the motor, to which the timer is secured, passes right through the timer, giving a long bearing surface. To this shaft is keyed the ring piece carrying the contact blade H. The casing is two pieces of brass which are not opposing plates or disks placed together, with the concave portion forming an open space between them, but are united as if a flat circular box were divided into two parts by cutting it diametrically across the center, each part being semi-circular in shape. These halves are belted together. Encased within them is all the mechanisms. The method of inserting the terminal is best understood from the sectional portion of the illustration. For each of the four binding posts B a socket G is screwed into the side of the casing. Opposite is inserted a similar socket, there being two sockets for each terminal or eight in a timer for a four-cylinder engine. In each socket is the steel plunger D previously referred to. These sockets are insulated from the brass casing by the fiber washers F and are electrically connected with the terminal post B by a bridge work E, which has unions with both sockets G and J, so that through it the plungers D and C have their con-

nection with the pin B to which the wire to the coil of spark plug is attached. A pair of lock nuts surrounding the terminal B are used in connecting the wires.

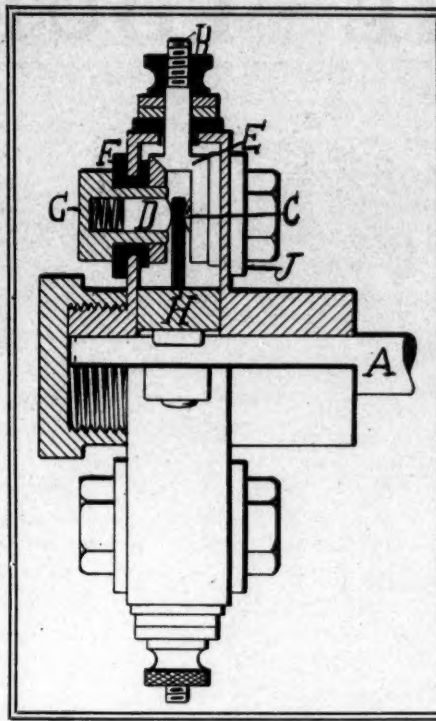
The Powell muffler is a succession of nine cup-shaped



POWELL MUFFLER WITH SECTIONS SHOWING PERFORATIONS IN PARTITIONS

pieces B designed so the bottom of one fits snugly into the top of the next, much as cups when set one within another. These nine sections are held together by a series of bolts passing from end to end. In the bottom of each cup-piece is a series of large-sized holes all around the outside, so gases entering the left end of the muffler through a central pipe A pass from one cup section to the next through these perforations. The holes or perforations D in the first seven sections are large, so little obstruction is offered to the gases entering. Practically eight-ninths of the muffler is a large chamber for the gases to cool in, there being no back pressure occasioned. To get from the eighth to the ninth section the gases have to pass through a series of very small holes E, which restrict the flow. When in the last section they exit through a central opening. One section illustration shows the size of the holes in the first seven sections and the other indicates the small opening through which the gases pass from the eighth into the ninth or last section.

Twelve sections are used for a 10-horsepower motor. All cups or sections are made from pressed steel. The cups are made in two diameters, 5 inches and 6½ inches. For a motor with a 3½-inch bore and stroke, nine sections of the smaller size are recommended; for motors with a 4½-inch bore and 5-inch stroke thirteen sections of the same diameter are fitted;



POWELL TIMER

for motors with 5-inch bore and stroke twelve of the large diameter sections are sufficient, and for motors with bore and stroke measuring 6 inches each, fourteen

of these sections are required. One point most apparent about the muffler is the ease with which it can be increased or decreased in size. Should ten sections, or cups, not prove sufficient, one, two, three or any number of additional cups can be added by simply using new bolts for holding them together. Several tests have been given the muffler, one showing that a lighted candle placed 4 inches from the outlet passage was not blown out by the exciting gases. A 10-horsepower motor was operated at 1,000 revolutions per minute without a muffler. With the muffler attached the number of revolutions was reduced to 968, showing that the back pressure was but 3 per cent. In this test the thirty-two engine revolutions comprised the decrease in speed caused by the presence of the muffler, whereas with one or two other mufflers tested at the same time as high as eighty-eight revolutions per thousand were lost owing to the muffler.

In making the muffler special care shown in the cup manufacture insures against any leakage of gases where the several cups rest within the others. In the illustration shown one cup fits within the other, as kitchen cups would if similarly stacked, but on future mufflers a shoulder is going to be introduced so that the chance of escaping gases is further removed. Little trouble is experienced in dissembling and reassembling, the cups returning to position readily.

Motor Car

Literature

"Three Men in a Motor Car," by Winthrop E. Searritt, former president of the American Automobile Association and the Automobile Club of America, tells in Mr. Searritt's own fascinating manner the joys of a 3 weeks' tour last fall through France, Germany and Switzerland in a motor car. The author is brimful of motoring—is, in short, one of the most enthusiastic disciples of motoring—and in every chapter this enthusiasm bubbles out, creating in the reader a contagion for the tree-bordered roads of the continent, the clear sky of France and the myriads of interesting places built centuries ago. The three men, Mr. Searritt and a couple of his friends, toured rather than scorched over the miles of roads, and the story and illustrations tell a tale of enjoyment rather than one of flight. The last portion of the book is devoted to a general resume of the motor world. Chapters are distributed over such subjects as visiting French factories, motor cars for newspaper use, road racing in America, the future of the motor car and various other topics. For those contemplating a trip abroad, the instructions given are invaluable. A custom code of rules, followed by the expenses of travel,



the little ins and outs of the different countries and the people to look to for assistance, are treated at length. The book is from the press of E. P. Dutton & Co., New York.

"A Booklet Telling of Morgan & Wright Automobile Tires" has been issued. It is printed in two colors on sixteen pages, illustrated with tasty sketches in tint and tire section in half-tone. The text treats liberally of the clincher, Bailey tread, Dunlop and solid tires, while a section is devoted to the universal rim, which is designed to accommodate either the Dunlop or clincher tire. Several pages are also devoted to describing the use of Morgan & Wright tire tools. The company has also sent out a handsome lithographed picture of a youthful chauffeur, who, with hand raised a la cabby, says, "Want to take a

ride on good tires?" When framed it makes a desirable ornament to the wall of any sort of automobile establishment.

The 1906 catalogue of the Ford Motor Co., of Detroit, Mich., dwells upon the career of Henry Ford from the time he built an automobile in 1892-3 to the time he brought out the little four-cylinder runabout. The six-cylinder car and the four-cylinder runabout are described at length in the catalogue, which is printed in two colors and contains twenty-four pages and embossed cover.

Thirty-two pages are devoted to describing the various models of the Pope Motor Car Co., of Toledo, O. The first part of the catalogue is a dissertation upon automobiles in general and the Pope-Toledo in particular, interspersed with scenes in Europe wherein a Pope-Toledo is the chief object in view. The booklet is tastily gotten up in two colors.

E. B. Gallaher, importer of Brasier cars, has issued a catalogue describing the various chassis and bodies of this well-known French car. The illustrations for the most part are upon separate sheets and are inserted in an envelope section of the cover of the catalogue.

FROM THE FOUR WINDS



REVIEWING ILLINOIS TROOPS

Surprised Tax Officials—The Pope Motor Car Co., of Toledo, O., took the Lucas county officials off their feet recently by voluntarily raising itself over \$20,000 in taxable valuation to \$115,874.

New Idea on Racing Cars—The Frayer-Miller company has adopted the Belden transmission device for the three cars now under construction for the Vanderbilt cup race. E. H. Belden, the inventor of the device, will drive one of the machines.

Wanted Oiled Roads—Carl Fisher, of Indianapolis, has started a movement to oil the road in Central avenue from Fall creek to Broad Ripple. An estimate of \$160 a mile has been made, which would make the approximate cost about \$1,000. Fisher has headed the list with a \$100 contribution.

Deneen Modern—During the recent inspection of the state troops at Decatur, Ill., George W. Erhart, Autocar agent at that place and also a member of the American Automobile Association's touring committee, improved the opportunity to take Governor Deneen and Colonel Clokey out in an Autocar touring car, from the back seat of which the governor inspected his troops.

Cadillac Successes—Dexter & Crozier, Cadillac representatives in Auckland, New Zealand, have notified the Detroit company that a model B single-cylinder Cadillac, driven by Crozier, made a non-stop run, secured full points and tied for the cup with 12 and 15-horsepower Darracqs for the North island reliability test of New Zealand. The test was a 4-days' run to the hot lakes district and back again, covering some very hilly and sandy districts. The Cadillac was the only car carrying a full load of four passengers to secure full points. The total distance of 409 miles was done with only 19¼ gallons of gasoline consumption.

Quakers Prosperous—The addition of sixteen new members to the list at last Friday night's meeting of the board of governors gave the Automobile Club of Philadelphia a good start in the effort to increase the membership to at least 400 before October; the total now stands at 318. The runs and tours committee made public the preliminary details for the next contest for the Brazier cross-country cup, which will be held on Saturday, October 20. As was the case last year there will be four checking stations—Philadelphia, Doylestown, Quakertown and Pottstown—and while contestants will be compelled to register at those points they may travel over any roads they desire in order to

reach them. To make the contest equal the event, as usual, will be a handicap affair. The route, roughly, is about 104 miles by the shortest possible roads.

Morgan Moves—W. J. Morgan has removed his office quarters from 116 Nassau street to Bretton hall, Eighty-sixth street and Broadway, New York, so as to be nearer the automobile trade center.

N. M. C. Growing—Twenty-two new members were elected by the New York Motor Club last week. It is expected that the roll will reach 250 by June 1. Committees are now pushing work connected with the second annual celebration of orphans' day on June 6 and the second annual economy run on June 20, 21 and 22.

After Pine Lake Home—Within a few weeks the new home of the Automobile Club of Detroit, overlooking Pine lake, will be opened to the members. At a recent meeting of the club the following officers were elected: President, Edwin S. George; first vice-president, C. A. Du Charme; second vice-president, D. M. Ferry, Jr.; third vice-president, H. G. Hamilton; secretary, Harry Skillman; treasurer, L. H. Case; consulting engineer, S. J. Serrell, of Pontiac.

Long Island Parade—A big turnout of motor cars is expected on the occasion of next Saturday's parade, which is being promoted by the Automobile Club of Long Island. The Automobile Club of America, the New York Motor Club and the automobilists of Greater New York generally have been invited to participate. The start will be at 2 o'clock from Prospect Park plaza. From there the route will be along Eastern Parkway to Bedford avenue, Lafayette, South Oxford, Hanson place, Fourth avenue and Degraw, and through Lincoln place, along the west drive of the park, to the boulevard and to Coney Island, where the paraders will officially disband. The automobilists will reach Coney Island at the time of the day when everything will be in full swing. There will be no fast driving, and a moderate pace will be observed.

Bay State Clinches Home—The lease for the new club house of the Bay State Automobile Association at 282

Dartmouth street, Boston, has been signed, and the opening will take place June 1.

Didn't Like Shanks' Ponies—Edward Walsh, a Chicago wholesale grocer, was fined \$15 and costs for violation of the speed ordinance. This so angered him that he refused to pay, whereupon he was told he would have to go to the house of correction. The constable rubbed it in by asking him to pay the carfare. Walsh again balked. He started to walk with the officer, but five blocks were enough and he surrendered, walking back to the justice shop and paying the fine.

Rest for Ford Racer—The Ford six-cylinder racing car, which has been bottled up so long with a view to creating consternation in the line of speed annihilation, is standing apparently forgotten in a corner of the store room at the old Ford factory. The company will do no racing this summer on either tracks or beaches, according to Henry Ford. In the winter the car may be overhauled for the Florida campaign. Too high a gear prevented it from doing its best at the Ormond-Daytona meet last winter.

Kick from New Jersey—Asserting that New York motorists go into New Jersey and grossly violate the speed laws, the Automobile Club of Hudson county has sent word to the Automobile Club of America that its members will take the number of those cars that travel over the Hudson county boulevard and other roads at excessive speed and report them. Mayor Fagan, of Jersey City, has received word from the Automobile Club of America stating the club's readiness to cooperate in remedying the evil, and indicating its readiness to expel members that are found guilty after being reported by the New Jersey automobilists.

Pick Another Hill—Indianapolis dealers have decided to change the location of their hill climb from Michigan hill to Valley Mills hill, 8 miles southwest of the city. The contest will be held on the 24th. One of the reasons for the change was that the Valley Mills hill is not used so much by the traveling public, while another is that it is broad enough to allow two cars to go abreast and race up. The roadway will be divided by a red ribbon, according to present plans, and two machines will be started at the bottom and sent away at the same time. The program for the afternoon will consist of events for

light runabouts, medium and heavy cars, loaded and empty, that is, excepting the driver in the latter case, steam machines and events for cars driven by their owners.

P. M. F. Recruit—A club has been organized at Corry, Pa. The board of governors is as follows: President, W. E. Steele; vice-president, Eli Barlow; secretary and treasurer, W. E. Marsh. The club will join the Pennsylvania Motor Federation.

Merrick President—Benjamin P. Merrick has been elected president of the Grand Rapids Automobile Club, of Grand Rapids, Mich., succeeding Dr. Perry Schurtz. A. A. Barber was chosen vice-president, Dr. D. Emmett Welsh secretary, and N. Fred Avery, treasurer; Dr. Henry Hultz, O. H. L. Wernicke and John T. Byrne. The club has a membership of seventy-four at the present time.

Easy Money—In the neighborhood of twenty-five young men and boys make from 25 cents to a dollar every afternoon watching automobiles left near the Detroit baseball park. Society has taken up baseball in Detroit and, as there is no place for cars inside the grounds, they are necessarily left outside. A regiment of putative watchers is on hand at all times and, when the game is on, the streets next the park are lined with automobiles, each oc-

cupied by a juvenile of more or less opulent appearance.

Church Enterprising—They have a church in Cincinnati which is certainly enterprising. A new structure is being erected and in addition to flats for the pastors and bowling alleys, there will be a garage.

Maine Club to Build—The Automobile Club of Maine has contracted for the erection of a new club house at Crescent Beach, near Portland, to be used as a summer house. Possession of the new place will be had the middle of next month.

Newark's Choice—The New Jersey Automobile and Motor Club has elected its officers for the coming year as follows: President, J. H. Wood, of Newark; vice-president, Angus Sinclair, of East Orange; secretary, H. A. Bonnell, of Newark; treasurer, James C. Coleman, of Newark.

Camdenites Enjoy Run—The newly-organized Camden, N. J., Automobile Club had its first regularly scheduled run on Saturday afternoon, the jaunt being to Egg Harbor and return, a round-trip distance of 80 miles. Supper was eaten on the return trip at Hammonton, 28 miles from home. The start was made from the club's quarters on Cooper street, above Third, with Samuel W. Sparks, the president, in the lead. There were twenty-six cars in

line. The Camdenites now boast a membership of fifty-four.

Tennessee Registration—Thirty-five licenses were issued by the secretary of state of Tennessee last month, a record-breaking count, the previous best being twenty-five. Fourteen were issued in February and twenty-nine in March. It will be seen from this that motoring is becoming more popular in the south.

A. A. A. Change—Announcement was made in Chicago this week that R. P. Hooper, of the Germantown Automobile Club, had consented to accept the position of chairman of the highways committee of the American Automobile Association left vacant by the resignation of Judge Hotchkiss, of Buffalo, who did not have the time to give the post.

For Salesmen's Use—Grant Courtwright, traveling salesman of J. A. Sloan & Co., of Columbia, Tenn., makes his territory in a 1906 Oldsmobile runabout. He covers the territory formerly traveled by three men and has made 6,000 miles since he got his machine and at an expenditure of \$4.50 for repairs. The record has interested several local wholesale firms and a deal is said to be on with one of the Nashville garages to furnish a fleet of runabouts to a Market street wholesale firm for the use of salesmen.



MAKING CLEVER ROADSIDE REPAIRS



Syracuse, N. Y., May 14—Someone ought to get up an experience club, a sort of a clearing house where drivers could meet and discuss their troubles and furnish ideas on what to do in emergencies when the nearest garage is miles away and one has to depend mainly upon one's wits to get out of the hole. If such a club were formed E. E. Wilson, superintendent of the Amos-Pierce Co.'s garage here, would be prominent in the interchange of dope on roadside repairs.

"One of the most discouraging experiences I ever had was at Corey hill near Boston," said Wilson the other day, rehashing some of his experiences. "At 12 o'clock at night the strut rod broke and dropped down, letting off the chain. I took off the sprocket, put a Stilson wrench on the jackshaft, let it draw up tight against the housing box, which locked the differential and drove home with one chain.

"One time my carburetor float started leaking and filled up until the weight of the float opened up the valve and allowed the gasoline to run into the mixing chamber until it became so rich it stalled the engine. I located the trouble, bored a hole into the copper float, turned out what gasoline there was in the float and made a wooden plug which just filled the hole

bored. Then the float was put back into this carburetor and the engine was started. Every 5 miles the float would fill up with gasoline. When that happened I would remove the wooden plug, empty out the gasoline and go on until the engine refused to run, when the same process would be gone through again. The trip from Bridgeport, Conn., to Boston was made in this way.

"Once my automatic inlet valve broke and sucked down into the cylinderhead, put a hole through the piston and stalled the engine. I found the trouble, then I removed the cylinder head, took the piston and connecting rod out, and set the head back so there could be water circulation. That side of the intake pipe was plugged up so three cylinders could draw gas from the carburetor and in this way I was enabled to get home, driving from Yonkers, N. Y., to New York city.

"Of course, tire troubles are constantly occurring to everybody and the only problem here is to protect the rim and proceed slowly home. Once on the way from Manchester to Portsmouth, N. H., I filled up the tire with hay and wound rope around it to protect the rim.

"On the way from Providence to Boston one time I had a plug wire

that had been broken several times and it became so bad I couldn't make connections. This time I gave it a yank and spoiled it altogether. I looked about the road until I found a coil of ordinary telegraph wire, put it in place of the old wire and came along all right. I put waste under the wire and fixed it so it could not touch anything, thereby avoiding short circuit.

"The breaking of a spring when you are out on the road is not serious. I once drove 30 miles by placing a block of wood under the spring and winding it with a summer lap robe.

"If a brake gives out, it is perfectly possible to so control the engine in going downhill that there will be no accident. Keep the engine on the high speed and approach the grade slowly so as to see if the coast is clear. Then throw off your spark and let the engine hold you downhill. Each piston will work up against its own compression and the machine will go down the hill steady as you please.

"One rather amusing incident occurred when our batteries gave out. I bought four door bell batteries from houses near by and with them was enabled to get home without more trouble, although the batteries were nearly used up."



BARS TIRE SHOOTING

Cleveland park policemen who shoot at automobilists, either to scare them or to puncture their tires, are likely not only to lose their jobs, but to stand for prosecution. This is the edict of Mayor Tom L. Johnson, of that city. The point came out at the hearing of a protest made by Superintendent J. F. Weidig, of the Winton Motor Carriage Co., against his arrest by Policeman Stanchfield. It developed that two of the park police had shot at a big black racing machine which had been tearing through the boulevards without a number. Mr. Weidig came along about that time and got into a heated argument with the policeman, which resulted in Weidig's arrest. The policeman admitted shooting to scare the owner of the machine, while Weidig claims he said at the time that he was trying to puncture a tire to stop the car. The judge let Weidig go, while the mayor scored the policeman most severely and gave him a lay-off to think about it. The mayor also emphatically ordered Chief Golsoll, of the park police squad, to prohibit his men from such promiscuous use of their firearms and said he would hold the chief personally responsible for future shooting. He said if the police could not stop machines in any other way they had better fasten a chain between a couple of posts, but he advised the coppers to keep away from the chain about the time that a big car came along at high speed.

WOULD VOICE OPINIONS

At the regular meeting of the Automobile Club of Springfield, in the club rooms, at the Worthy hotel, last week, it was unanimously voted that the club should express its views on the bills relative to motorists now pending before the Massachusetts legislature. It was voted that the secretary of the club be empowered to write a letter to the members of the legislative committee before which the bills are to be heard, and that as many individual members as possible should write personal letters to the members of the committee in behalf of the bills. One automobile bill now before the legislature is for the purpose of raising the speed limit to 20 miles an hour in the country and to maintain the same speed limit in cities, villages and towns as at present. This bill has been passed to be engrossed by the house and has been sent to the senate for concurrence. The other bill in which the Springfield club is especially interested is the bill providing that the high-

way commission shall have the power vested in it to regulate and collect all fines, thus, it is hoped by the automobilists, cutting off any graft which the country constables may enjoy by haling before the courts autoists whom they allege exceed the speed limit. When the speed limit bill reaches Governor Guild it is planned to have automobile owners and drivers from all parts of the commonwealth place their views before the governor in an attempt to show the advantage of such a speed regulation.

SECOND LICENSE UNNECESSARY

Changes in the Minnesota automobile law made by the new code will not make it necessary for old licensees to procure new licenses, according to an opinion of Attorney General E. T. Young in reply to a query from L. A. Lydiard, city clerk of Minneapolis. Mr. Young, in his opinion, holds that the section of the code referring to automobile licenses is taken practically unchanged from the laws of 1903, except that the city clerk, instead of the boiler inspector, is to issue the license. He holds that since there is no provision in the code for the termination of the license it is clear that it was intended to continue as long as the licensees might operate the machine for which the license was obtained. The change referred to would not revoke the licenses regularly issued by the boiler inspectors. The authorities seem to hold that even an absolute and unconditional repeal of a law under which a license is issued does not revoke the license unless the repealing law so provides. He also holds that the owner of two or more machines cannot use one license for all of them, but must have a separate license for each machine. Each license must describe the machine so that it could be identified, otherwise it would not be "a license therefor," and a license with such a description would not be a license for any other machine.

CLEVELAND'S MIXUP

Chief Kohler, of the Cleveland, O., police, has issued a formal notice to local automobilists that after May 16 the old Cleveland automobile ordinance will be strictly enforced and he calls particular notice to the point that all machines must be fitted with Cleveland license tags. This is the result of a notice from Attorney General Ellis that the law passed by the recent session of the legislature is plainly unconstitutional. It has been decided that the law is invalid on these grounds: First—

It is not uniform in its operation. Second—It deprives municipalities of the power to regulate the use of their streets as to certain classes of vehicles. Third—Its provisions are indefinite and uncertain.

The Cleveland Automobile Club was just planning to test the constitutionality of the law in court when notice of this decision arrived. Chief Golsoll, of the Cleveland park police, wants a special automobile law which shall apply to the parks and boulevards. He does not think the present speed of 15 miles an hour, which is allowable in all but the built-up portions of the city, should be permitted in all parts of the park system. He says there are many parts of the parks where large crowds congregate and where many vehicles are constantly passing on Sundays and holidays, where a speed of even 4 or 5 miles an hour would be dangerous. On the other hand, the chief says there are parts of the boulevard system which are practically in the country where, so far as he is concerned, he would be willing to see the operators exceed 15 miles an hour.

In other words, he wants the right to mark off the parks and boulevard drives into speed zones and post notices as to what speeds are permissible. He is quoted as being quite in favor of allowing the automobilists to have a portion of the boulevard as a speeding ground where a reasonable speed might be permitted. He recently conferred with some of the members of the Cleveland Automobile Club as to what might be considered a safe speed. Secretary Goddard, of the club, has arranged to take the chief out for a ride and show him that an automobile going at a speed of 20 to 25 miles an hour can be stopped in from 15 to 25 feet. The chief says that if this is demonstrated to his satisfaction, he will favor the speeding course proposition.

TACOMA TAKES INITIATIVE

The Tacoma Automobile Club, of Tacoma, Wash., is taking the initiative in the matter of having the state law governing speed enforced. The speed limits are set by a state law, and this is so framed that municipalities cannot enact measures of their own. The maximum rate of speed within the city limits is 12 miles an hour. Of late there has been a number of aggravating violations, Tacoma, like so many others, having a few reckless spirits who have no concern for other people and do not take any pride in the class to which they belong. The Tacoma club feels its law-abiding members are suffering as a result of the odium cast upon the entire class. Wishing to go on record, at a meeting recently a resolution was passed requesting the chief of police to enforce the state law. If it becomes necessary members of the club will assist in procuring evidence. They are determined that fast and reckless driving on the city fast and reckless driving shall stop.

George M. Shreeder, manager of the Tacoma baseball club, has frequently been

referred to in this connection. He came to grief early Sunday morning, while showing the catcher of the team and a shoe man a few "stunts." In making a turn, while going at a high rate of speed the car collided with a tree, and the wonder of it all is that nobody was killed. One of the men was thrown 20 feet and through a fence. The machine was utterly wrecked. This accident has aroused the authorities as well as the automobilists. A leading hotel man is referred to as another persistent violator. He admits having gone to Olympia, which is 34 miles away, in less than an hour—in fact he and his chauffeur have been bragging about it. In a large measure the cases here are parallel with those of other eastern cities.

MAKING A BLUFF

Against strenuous protests from the members of the city council, the Detroit police department has stationed at the Campus Martius, the center of town, a couple of mounted police, whose orders are to stop and arrest every automobile scorcher who places life in jeopardy by driving recklessly through the mass of people. The officers are mounted on great black horses and present a most imposing appearance. As yet they have made no arrests, however, and the members of the

council claim the move is uncalled for and constitutes an unnecessary expense. Detroit has been remarkably free from automobile accidents this spring, in spite of the large number of cars owned in town, and the tremendous number which are being daily tested by the employes of the many factories.

MUST CARRY TWO TAGS

The Pennsylvania supreme court Monday handed down a decision sustaining Judge Willson's decree in the common pleas No. 4 court in the case of Brasier vs. the City of Philadelphia, requiring automobilists to display a city tag and observe local regulations while operating cars in Philadelphia. This decision, which means that Quaker automobilists will be subjected to a double tax, is considered a great hardship and nuisance, the decision making the carrying of city obligatory, while according to the state law it is illegal to operate an automobile anywhere in Pennsylvania without a state tag.

HAWKEYES MEAN BUSINESS

The statute regulating the operation of automobiles, adopted by the Iowa legislature, is being enforced in Council Bluffs. The law has a general provision for a speed of not more than 10 miles an hour in cities and towns, and, for the purpose

of preventing accidents to farmers, places rather stringent restrictions on the drivers of machines. They are required to come to a dead stop when meeting a nervous horse, provided the horseman gives a warning signal by raising his hand, and the motorist must wait until the animal gets safely by. The cars must also be under full control when approaching bridges, and must go down all hills under control. Failure to obey the law makes the owner of the car responsible for all damages and entails the penalties for violation of the usual speed ordinances.

HAVE SOME RIGHTS

In reversing the judgment of the circuit court, in the case of Gustav Eickman against Henry Burchest, for running an automobile so fast and carelessly that the former's horse was scared and run away, the Wisconsin supreme court holds "there can be no liability for injury resulting from the ordinary noises or the appearance of the machine, not caused by its excessive speed. Such noises are not negligence." This would tend to establish the law as giving the automobile equal rights on the public highway with the horse-drawn vehicle, so long as the speed is lawful and moderate and the manner of driving not negligent and dangerous.

THE READERS' CLEARING HOUSE

CYLINDER OILS

Contoocook, N. H.—Editor MOTOR AGE—Please advise through the columns of the Readers' Clearing House the following: I have two kinds of cylinder oil that I am using on a Michigan car, with water-cooled motor. The one in barrel lots costs 55 cents per gallon and the other a trifle more than half as much. The motor seems to run perfectly with either, the plugs are clean and, without taking the engine apart, the cylinders seem to be well lubricated. Am I running any risk in using the cheaper oil? You may say that common sense ought to be my judge, and this may be true. But there are people who say that a low-priced oil is always unsafe to use, that if the plugs keep clean it will nevertheless carbonize and cut the cylinder, even if it appears to be working all right. Is there any way I can determine to a certainty?—H. J. D.

Ordinarily the argument that a high-priced oil is better than a cheap oil will hold good, as it will in relation to almost any commodity. Price usually is an important factor in the matter of quality, or, rather, quality is the factor which determines price. A purchaser, however, might pay, say, 50 cents per gallon for oil that could be procured from another dealer for half that amount. The user ought to be the judge as to the results obtained. If the motor is thoroughly lubricated, if the piston, cylinderhead and plug do not foul

excessively and if the rings do not stick from the use of the cheaper grade of oil, its continued use could be recommended. To determine the difference in the oils tests would have to be made as to the flashing point, specific gravity and viscosity. Most any oil carbonizes to some extent when the temperature exceeds 500 degrees Fahrenheit. The approximate temperature of the ignited gases in a gas engine is 2,000 degrees Fahrenheit. If the oil will show a specific gravity of 25, and a fire test of 420 it will prove safe for use.

LOOSE FLYWHEEL

Newark, O.—Editor MOTOR AGE—There is a perceptible hammering somewhere about my motor, but so far I have been unable to locate it. It is not from the spark being too far advanced, for it is present when the spark is retarded. I took the advice of a neighboring motorist and doped the cylinder with kerosene to loosen the rings in case they were sticking, but still the hammering. Where is the trouble to be found?—R. F. Jones.

The rings might be sticking, notwithstanding the fact that kerosene had been used to free them, but this can be determined by the amount of compression. There is every indication, however, that the flywheel key is either worn or has become loosened. Rocking the flywheel by hand would not determine this unless there were considerable play, but this is probably where the trouble lies.

DIFFICULTY IN TURNING

Philadelphia, Pa.—Editor MOTOR AGE—I have just secured a new six-cylinder car and naturally am much interested in experimenting with it. In the course of my tests I have been studying turning around in the street. While doing this I discovered a curious thing which puzzles me. The street I am using is 40 feet wide and the wheel base of my car is about 112 inches, with 56-inch tread. The car turned beautifully in a left-hand circle; in fact, I had from 7 to 8 feet clearance. But when I tried to swing around the other way I was on the curb before I had made three-fourths of my circle. I have studied and studied over the proposition, but so far have been unable to solve the mystery. Can you help me out?—H. L. M.

Your case may be explained the same way as was the difficulty the owner of an English six-cylinder had. To win a wager he turned his car on a street of about the same width, but when he attempted to go the other way the road was not wide enough for him. He tried it several times with the same result, then started an investigation which disclosed that the clamp of his speedometer had been placed in the center of the swivel arm on the right-hand side, which, of course, shortened the radius. But after he had removed the speedometer he had no more trouble, turning in either direction with equal facility. Maybe this is your trouble.



WHEN LOADED IT ALMOST FILLS THE BREWERY COURT



It is one of the curiosities of commercial automobile operation that although many of the brewers of New York use anywhere from three to ten machines and claim, in a number of instances, that they are expensive, they at the same time admit they don't know exactly how much so—and then slide off the direct question by the broad reply that the advertising is worth something. Undoubtedly it is, and as long as this unknown quantity is considered in that light just that long will their number increase without definite reasons.

So, if the reader were to be in the position of a possible user of big trucks and looked to the brewers using them in New York to convince him for or against their use, he would swing between the heights of hope and the depths of despair. Again would he rise or plunge if he timed his inquiries 6 months apart. That is, in the winter, with its sleet and snow, he would find even the most enthusiastic keeping largely to their horse vehicles—but always with this condition, that the horses would be winter shod and not with summer foot equipment, while the motor trucks would, if sent out at all, have little, if any, tire provision made to take care of the tractive condition.

In the summer, particularly when a hot spell is on, then would he find even the cold cynic of 6 months back warming up to the motor truck when horses are dropping all over town, are hauling only two-thirds of a load and are being drenched at the fire hydrants, horses that cost from \$800 to \$1,000 per team. Then it is that the loss of a team nearly if not quite pays for a year's upkeep of one big motor truck.

While the lack of definite figures as to absolute cost of upkeep has been pointed out, insistent probing brings out that while

The Realm of the Commercial Car



interest of the owners would see to it that overloading was rare and that more intelligent drivers were common, but facts are that this is a rather more ethical condition than trucking has reached. A vital illustration came under observation recently while investigating this subject. A motor truck load of 130 packages was driven into the yard of the brewery being then visited. Inquiry brought out that the horse truck's regular load was eighty, and the tonnage for which the truck was sold would have been made up by 100 packages. Yet here was an overload of 30 per cent on the batteries. Further than this, inasmuch as the president of the brewery had just made the statement that he found the motor truck cost was about an even thing with horse trucks, here was a case where the overload in comparison was 62½ per cent, and the admission added that the instance under observation was not a rare one.

In stating that the cost of horse trucks and motor trucks was about an even thing, the president very fairly pointed out that as against battery and tire renewals they were constantly buying horses to replace broken down, worn-out or dead animals. On the other hand, no account was taken of the battery charging, even though they had just put in a larger dynamo than was needed for merely lighting the plant. Again, as a contra condition, came the fact



SPECIALLY DESIGNED FOR THE BARREL TRADE

Electrics in Brewery Service



that extra or rest horses were kept as part of the animal trucking equipment, while no definite rest periods were given the battery trucking equipment. And then again the chief electrician was "hostler" to the motor trucks while the chief hostler proper did not give any of his time to outside duties.

Harking back to the head of the concern who gave the high figure of \$1,600 per year as the average on the seven trucks used by his concern. He was very emphatic in his opinions against a further increase in motor truck equipment and yet, within 48 hours, he was negotiating for improved equipment. Whether this was from a change of heart, a change of diet or because of a clever salesman is for the psychologist to figure out.

The highest positive figures found were those in the case of an eastern branch of a hyphenated western brewery. Five motor vehicles are used by this branch and the high cost of \$1,860 per year was given for each. But, \$660 a year, or \$55 per month, of this is due to the fact that the motor vehicles are stored and charged in a public garage. A new general headquarters building is now nearing completion and in it will be housed the motor along with horse trucks of the concern, and the electrical equipment for the offices, stores, shipping, etc., will be utilized for charging, thus cutting down the cost to figures



THE LARGE STYLE OF WAGON FOR BARREL HAULING

more in keeping with those given as the average by the other breweries.

FIRE ENGINE FIGURES

For 4 years the fire brigade in Hanover, Germany, has used an electric chemical engine, electric hose wagon and a steam automobile fire engine, instead of the horse-drawn machines previously used. The saving by this method of transporting the fire-fighting machinery of the city is quite apparent from the following paragraphs which contain figures showing the cost of repairs, cost of operation, original cost and the expense of doing the same work by horse labor. The motor wagons used by the brigade consisted of two elec-

tric machines, as mentioned, and one steam fire engine. The electric wagons cost \$15.3 cents per mile for the first 3 years they were in service, as against an expense of 30.2 cents per mile for horse-drawn wagons. The steam fire engine showed a similar saving. The department on the two electric engines alone saved \$960. The detailed expense of keeping the electric machines in repair for the 3 years is as follows:

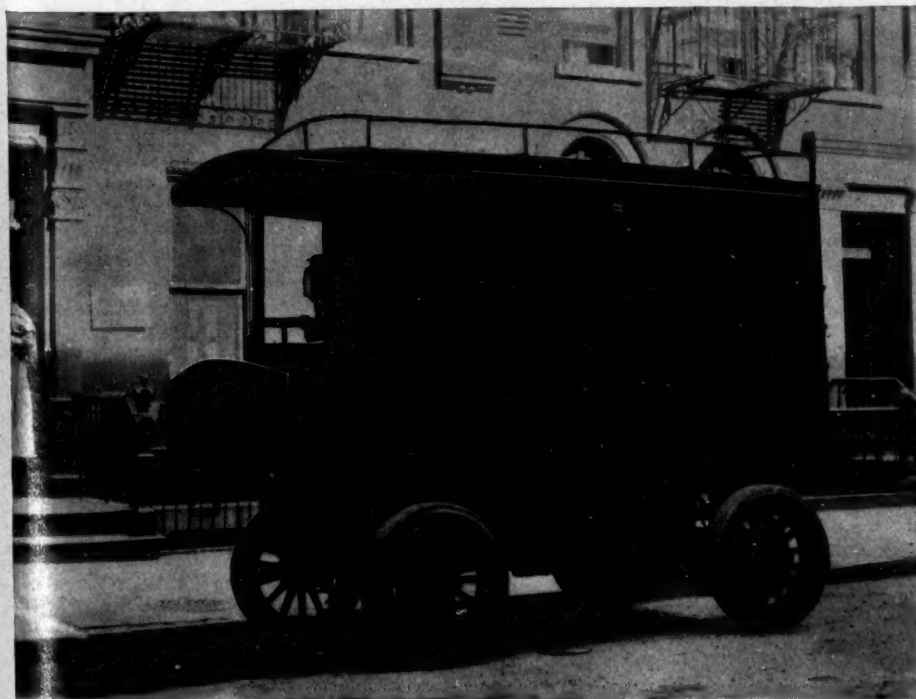
	First year	Second year	Third year
Repairs on electric motors	\$ 3.80	\$ 4.36	\$87.36
Repairs control parts ..	5.08		
Repairs wheels and tires ..	43.44	49.92	11.68
Repairs chassis		9.48	
Totals	\$52.32	\$62.76	\$99.04
Grand total for 3 years, \$214.12.			

As the machines in these 3 years traveled 6,341 miles the cost of repairs per mile amounted to 3.4 cents. The cost of these two electric wagons for the same 3 years for battery charging, battery repairs, oil and grease, is given in the table below. It must be noted that the second set of items in this table is the cost of charging the batteries for tests, a series being conducted by the department for its own satisfaction, for the benefit of the builders of the machines and also for the information of the many outside corporations in other cities and counties that wished to know the exact ability and cost of the machines. The table:

Cost for charging batteries	\$163.32	\$147.72	\$124.82
Cost for charging batteries in tests	39.04	18.18	42.36
Cost for battery repairs ..	22.10	3.78	185.74
Cost for oils and greases	3.40	6.72	5.16
Totals	\$229.86	\$176.40	\$358.08

Grand total of running expense for two machines for 3 years, \$764.34, or an expense of 12.8 cents per mile.

Taking the two machines year by year for the three seasons the figures showing the total expenses of repairs and running expenses are as follows: First year,



INTENDED FOR BOTTLE USE ONLY

\$282.18; second year, \$239.16; third year, \$457.12. These two electric machines have traveled during the 3 years a total of 6,341 miles and should these or similar wagons have been hauled by horses the over the same periods of time, would have expense, as based on previous calculations amounted to \$1,920, or exactly \$1,041.54 more than the electric machines cost.

During the same 3 years a steam-driven fire engine was in the service of the same department and the expense of running it, making repairs and replacements, amounted to: First year: \$179.34; second year, \$121.88; third year, \$350.84; total, \$652.06.

Taking the expense of the two electric engines and the steam engine together for the three seasons, the expense of operation becomes: First year, \$461.52; second year, \$361.04; third year, \$807.96.

The total cost of the three machines for the 3 years thus becomes \$1,630.52, or \$289.48 less than the cost of running two horse-drawn fire engines, or, in other words, the department has benefited by the introduction of motor propelled engines to the extent of having a third engine and \$289.48 besides.

Going one step further, the upkeep of these three first-aid wagons in the fire department, if drawn by horses, would be \$2,880 per year, so that the actual saving of three horse-drawn machines, compared with three motor-drawn machines for 3 years, amounts to:

First year, \$2,880, less \$461.52, annual cost of three motor wagons, gives \$2,418.48.

Second year, \$2,880, less \$361.04, annual cost of three motor wagons, gives \$2,518.96.

Third year, \$2,880, less \$807.96, annual cost of three motor wagons, gives \$207.22.

Total saving in expense for 3 years, \$7,009.48.

The original cost of the three motor machines was: Chemical engine, \$3,672; hydrant wagon, \$2,544; steam engine, \$4,060, giving a total initial outlay of \$10,276.

In looking over the upkeep of the two electric wagons for the 3 years, the large repair bill of \$87.36 on the motors in the third year is owing to the replacement of several armatures which had been damaged by water getting into them. The cost of battery repairs in this year was very heavy—\$185.74, as against \$22 and \$3 in the two preceding years, which was due to the replacement of all the negative plates in the cells of both wagons. The expense of the steam fire engine for the third year is likewise very much above that for the two preceding years owing to an accident which occurred during a test made for another fire department. The repairs resultant upon this misfortune amounted to \$257.52, and when deducted from the \$350.84, the repairs for the season, reduces it to \$93.32, or considerably less than the running expenses for the previous years, showing that the life of a steam machine is not a matter of a few years. It would be unfair to all of the three machines if it was not added that this is the only accident that has occurred to them in the 3 years and to this the ad-

ditional information that all machines are now in perfect working shape, can be added. The machines give night and day service the year round.

TACOMA IN LINE

Ground has finally been broken for the commercial car in Tacoma, Wash. This week the People's store received a Soules 22-horsepower car, which will be used for general delivery purposes. The car was secured by W. W. Pickrell, of the Washington Automobile Co., on a recent eastern trip, as one adapted to the hilly conditions to be encountered here. This does not happen to be the pioneer car, however. A couple of months ago E. J. Clothier, a dye works man, had an arrangement constructed that could be placed on the rear of an Olds runabout. But the People's store car is the first regular commercial car. An expressage concern is having a 30-horsepower Winton changed into a delivery car. The

interruptedly until April 7. The work done was that common to all department stores: A driver and jumper boy made four delivery routes each day and an additional one on Saturdays; the routes lay through all parts of the city and generally wound up in suburban districts. Streets were very muddy in places in March, loads were up to the 1,000 pound limit in most cases and speeds were according to the streets and loads. The attached table sets forth the general results of the test, showing miles covered each day and stops made. On the last day 70 miles, the banner figure of the test, was made, and on March 21 but 39 miles, the low water mark, was made. The number of stops varied considerably but was in general particularly heavy on Saturdays. No less than 147 were made on the final day, 136 on the previous Saturday, and 105, 104 and 101 on the respective previous Saturdays. In its Saturday work the car



CARTER DELIVERY WAGON WITH ENVIABLE RECORD

chassis of a last year's Winton was used, and a commercial body built on it by a local wagon company. It is known that quite a number of other concerns are awaiting the success of the new cars, and if they are able to negotiate the grades the local dealers will do considerable business this year.

DETROIT DELIVERY DATA

Traveled 1,544 miles in 29 days; averaged 53.25 miles per day; made in 29 days 2,249 stops; averaged seventy-eight stops per day; cost 58 cents per day for gasoline and oil; had not a cent of expense for repairs or breaks; met with three or four punctures and traveled every one of the 29 days over good and bad streets. This sums up the trial demonstration of a Carter delivery wagon placed in the service of the J. L. Hudson Co. department store, at Detroit, Mich. The test commenced on March 6 and continued unin-

interruptedly until April 7. The work done was that common to all department stores: A driver and jumper boy made four delivery routes each day and an additional one on Saturdays; the routes lay through all parts of the city and generally wound up in suburban districts. Streets were very muddy in places in March, loads were up to the 1,000 pound limit in most cases and speeds were according to the streets and loads. The attached table sets forth the general results of the test, showing miles covered each day and stops made. On the last day 70 miles, the banner figure of the test, was made, and on March 21 but 39 miles, the low water mark, was made. The number of stops varied considerably but was in general particularly heavy on Saturdays. No less than 147 were made on the final day, 136 on the previous Saturday, and 105, 104 and 101 on the respective previous Saturdays. In its Saturday work the car

	Stops	Miles
March 6.....	87	56
March 7.....	71	46
March 8.....	65	54
March 9.....	33	48
March 10.....	101	64
March 12.....	60	52
March 13.....	71	49
March 14.....	85	52
March 15.....	84	59
March 16.....	60	58
March 17.....	104	56
March 19.....	65	44
March 20.....	64	55
March 21.....	54	39
March 22.....	74	65
March 23.....	52	46
March 24.....	105	56
March 26.....	52	48
March 27.....	65	55
March 28.....	66	58
March 29.....	57	52
March 30.....	67	49
March 31.....	136	67
April 2.....	61	49
April 3.....	92	50
April 4.....	95	54
April 5.....	98	49
April 6.....	78	44
April 7.....	147	70

Totals 2,249 1,544
Total distance traveled, 1,544 miles.

Distance averaged per day, 53.25 miles.
 Total number of stops, 2,249.
 Average stops per day, 77.5.
 Distance traveled per stop, .68 miles.
 Miles traveled per gallon gasoline, 10.6.
 Cost of gasoline and oil, \$12.65.
 Cost per day for gasoline and oil, 57.5 cents.

On the five Saturdays shown by the foregoing record, easily distinguished by the increased mileage and stops, the following averages apply: Average number of stops per day, 119.6; average number of miles per day, 62.6; distance traveled per stop, .53 miles.

The hours of service were:

Out with load 9:30 a. m.; return to store 11 a. m.
 Out with load 11:30 a. m.; return to store 12 noon.
 Out with load 1:30 p. m.; return to store 3 p. m.
 Out with load 4:30 p. m.; return to store 5:30 p. m.
 On Saturday, out with load 7:10 p. m.; return to store 9 p. m.
 Average miles per hour, including stops, 11.8.

car went to the suburbs every day, some of the trips including a section where there are no pavements. The mud in some instances was axle deep and of the blue clay variety, which adhered to the wheels, so that in a few cases the machine came in at night with the wheels a solid disk of mud and every spoke completely hidden. In some cases the mud which had frozen on to the wheels would fill two wheel barrows when it thawed off. The paved streets upon which the car was used comprised every kind, including asphalt, macadam, block, gravel, soft mud and thick mud, deep snow and ice. No trace was kept of the weights of loads carried except that at times it had fully 1,000 pounds without the driver and attendant.

For the information of those not familiar with the Carter car, it is first of all important to gather that it is a friction-drive machine, the much-discussed fly-

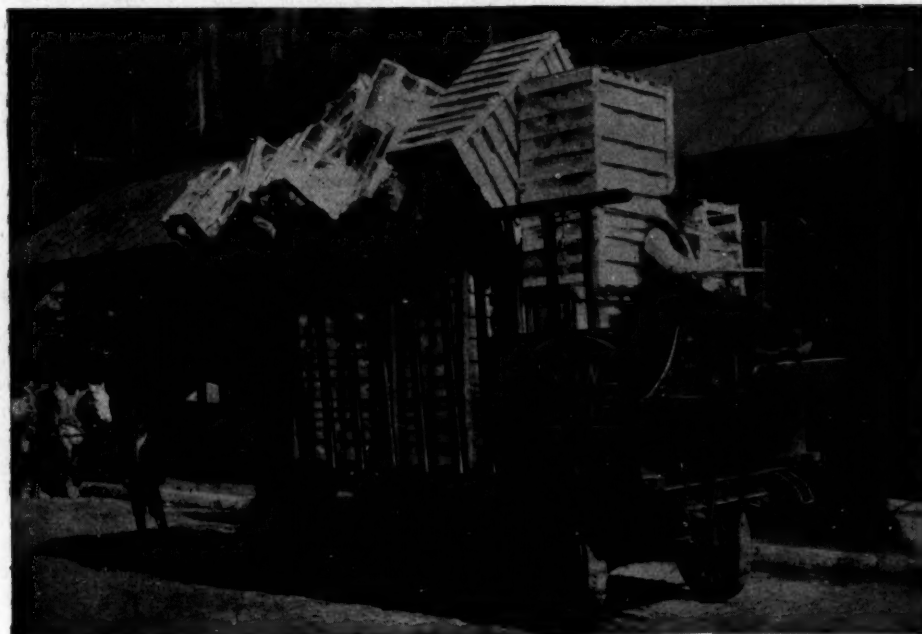
during 4 months. At present they show no signs of wear or deterioration. The tires show wear but otherwise the truck is approximately in the same condition as when it started running. The illustration shows this truck carrying a load of refrigerators, wheelbarrows and nails to the local freight station. The load aggregates 11,000 pounds, a weight which is a fair average of the daily loads carried. The truck's field of operation is the entire city and the streets are asphalt, cedar blocks, cobblestones and macadam. Like all other commercial machines, it receives a good share of jarring when running over rough surfaces at a fast speed.

HIT IT RIGHT

Thermopolis, Wyo., capitalists, anxious to develop their country, have hit upon the automobile as the means. The railroads do not touch many of the Thermopolis ranches and horses are too slow, so a stage and mail automobile bus line will be run. These buses will go through all parts of northern Wyoming and are expected to do more to civilize and boom that country than anything yet known there. There is plenty of money behind the scheme. A representative of the Smith Automobile Co., of Denver, the western agent for the Logan, will go to Thermopolis this week and make the final arrangements for installing a line of Logan buses. This will be the first instance in the Rocky mountain country where the United States mails are carried by buses except in the Uintah reservation lands, where a line was established a year ago, and in the Nevada gold fields.

CLEVELAND CAR-CRAZY

Cleveland's list of municipally-owned automobiles is likely to be increased. At present the city owns five machines—one big touring car and four smaller runabouts used by heads of departments and inspectors. The mayor has advised that the board of public safety purchase several municipal ambulances for the city infirmary and hospitals. There is some objection to this on account of the first expense, but the mayor's arguments of greater speed and comfort and small maintenance expense seem likely to have much weight. The chief of police wants the bicycle squad to be equipped with motor bicycles, while the chief of the "sparrow cops" wants a portion of his park and boulevard squad to be similarly mounted. These men have to cover long distances every day and they are expected to stop runaways and capture automobilists who speed beyond the limit. It is claimed that efficient service is almost out of the question with the present speed possibilities. Then, too, the fire chief and his assistants are clamoring for automobiles. The chiefs have to make long runs and they ought to arrive at a fire before the engines, so they can immediately take charge of things, whereas they now frequently arrive on the scene after the fire is out.



SIMMONS HARDWARE CO.'S 5-TON SYNNESTVEDT TRUCK

No repairing was done on the car during the 29 days covered by the record except the usual washing and cleaning up, which were all done by the driver of the car. There were two or three punctures, but an extra tube was carried and there was no delay of more than 20 minutes occasioned by the punctures, and there was not a failure in any case to deliver every parcel given to the driver to the house it was intended for. The weather conditions were as bad as it would be possible to find in a like period of time, as March was an extremely bad month. The car encountered very cold weather, one heavy snow storm, and the most of the time it was extremely muddy. It was used for the worst trips, partly on account of the fact that it was on trial and partly because the Hudson Co. wished to relieve its horses of the long trips to the outlying districts as much as possible. The

wheel clutch and transmission gear not finding a place in its make-up. Power is furnished by a two-cylinder, horizontal, water-cooled, four-cycle motor carried crosswise in front, the rating being 20 horsepower. The cylinder bore and stroke are 5 and 4¼ inches respectively. The parcel-carrying space is 36 inches wide, 44 inches long and 50 inches high. The wheelbase measures 94 inches, wheels are 30 inches in diameter and tires are 3½ inches. The speed possibilities are from a snail pace to the legal limit.

SATISFIED WITH ELECTRIC

The Simmons Hardware Co., St. Louis, last fall purchased a 5-ton Synnestvedt electric truck which has been in constant use ever since and which has been giving first-class satisfaction. The truck is equipped with Universal batteries which have behaved perfectly



EXTERIOR OF THE ATWOOD GARAGE AT CLEVELAND, O.

Has Uptown Branch—An uptown branch for Continental tires has been established at 2100 Broadway, New York.

Weaver Shifts—H. A. Weaver has severed his connection with E. B. Gallaher, importer of the Brasier, to accept an executive position with C. A. Duerr & Co., New York agents for the Royal Tourist.

Big Load for the White—If a touring car ever carried more passengers than did a White steamer on the evening before the centennial hill climb, when it bore twenty-two officials and newspaper men from the Wilkes-Barre Automobile Club to the Sterling hotel, a distance of over a mile, it is up to its owner to say so. There were four in front, eight in the tonneau and nine on the running boards, while Senator Morgan clung to the spring behind.

Maxwell Fuel Tests—The Maxwell-Briscoe Motor Car Co. has been making some private tests during the last month to ascertain the actual cost of operating its cars under real touring conditions, keeping account of cost of gasoline, etc., ton-mileage, and other statistical data. During the last week J. G. Emmerling, of Johnstown, Pa., made a run from Tarrytown to Johnstown. The first section of this test was by way of Nyack, Newark and Trenton to Philadelphia, a distance of 160 miles. It was done in 8 hours on the high gear and without stopping the engine. From Philadelphia by way of Lancaster, Columbia, York and Gettysburg to McConnellsburg, 185 miles, was made in 8 hours, under the same conditions. The balance of the run to Johnstown via Bedford, 80 miles, was made in 5 hours, the middle gear being used several times in crossing the mountains. The entire run of 425 miles was made in 21 hours with no adjustments except the tightening of spring clips.

Twenty-six gallons of gasoline and a little over a gallon of oil were used.

European Importations—There were 416 European cars imported through the port of New York during the first 5 months of this year.

New York After Record—The Carlson Automobile Co., Brooklyn agent for the Winton, has plans under way for the erection of a new garage, which, it says, will be one of the largest in the east.

One More—The South Broad Automobile Co., 729 South Broad street, Philadelphia, completed its line last week by securing the local agency for the Duryea, those already represented being the Dorris, Gale and Duquesne. An immediate enlargement of the company's salesrooms and garage is contemplated.

Maxwell Sign Boards—Thirty large cut-out sign boards have been placed by the Maxwell-Briscoe Motor Car Co. on the line of the Pennsylvania railroad between New York and Philadelphia, and forty along the right of way of the same railroad between Washington and the Susquehanna river. These are the first of an extensive campaign of sign board advertising which the company will undertake. The signs are of a very attractive character and will undoubtedly prove restful to railway trav-

elers as opposed to the present monotonous assortment advocating the use of pills, malted milk and breakfast foods.

Reo Average—R. M. Owen, sales manager of the Reo Motor Car Co., states that for the 3 weeks ending last Saturday an average of eighteen cars a day were shipped to agents from the factory at Lansing.

The Winton in London—The Winton Motor Carriage Co., of Cleveland, finds that Londoners like the Winton. The business at the Winton branch in London has wholly outgrown its quarters on Holborn Viaduct and before fall a new establishment will be secured in the west end, the fashionable portion of the biggest city in the world.

Waverley Agents—The Pope Motor Car Co., Indianapolis, Ind., have recently appointed the following dealers to represent the Pope-Waverley electrics for 1906: Lancaster Automobile Co., Lancaster, Pa.; Deright Automobile Co., Omaha, Neb.; Automobile & Machinery Co., Macon, Ga.; William Warnock Co., Sioux City, Ia.; H. L. Zobel, Jr., Sea Bright, N. J.; Waverley Electric Automobile Co., Charleston, S. C.; Pueblo Automobile Co., Pueblo, Colo.

Model Garage in Toledo—One of the finest garages in the central west has recently been erected in Toledo by the Atwood Automobile Co. The company commenced business the first of the year and handles the Waverley electric, the Pope-Hartford, Pope-Tribune, Buick, Packard, Franklin, Northern and Elmore lines. The building is 300 feet deep by 100 feet wide, all on one floor, thus doing away with elevators. One-third of the width of the building is in the nature of a wing. The front portion of this contains the offices, a retiring room and lavatory for women customers, a general reception room and large salesroom. Back of this are the stock rooms and a locker room for employees. In the rear is a large machine shop. The main garage presents a floor space unbroken by posts, measuring 66 by 275 feet. The floors are cement. In one corner of the main floor is a battery charging outfit with lines overhead and along the side walls, so that thirty machines can be placed side by side and charged, without a multiplicity of cables. In the other corner of the main room is a wash rack, provided with a turn table and a revolving hose rack. Adjoining this is a large room, provided with fire-proof walls and doors, and fitted with connections to several long distance reservoirs placed outside the building below ground, for supplies of gasoline and lubricating oils. The en-



WASH RACK IN THE ATWOOD GARAGE

tire building and offices are steam heated and are illuminated from the company's own plant.

Trip for a Tradesman—John T. Rainier, president of the Rainier Co., of New York, will sail on July 1 for Europe, having in contemplation a 4-months' tour in one of his namesake's cars.

Another New One—The American Automobile Co., of Pittsburg, has been formed and will incorporate under a Pennsylvania charter. The members are: M. S. Simms, L. C. Myers, George Eckert, H. S. Stewart and S. A. Dickie, it is announced.

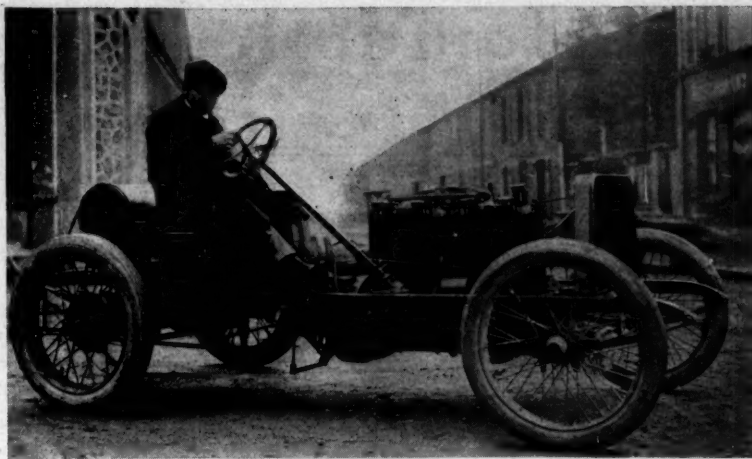
Stearns '07 Models—The 1907 models of the Stearns car, made by the F. B. Stearns Co., of Cleveland, have been under test for some time and exhibit some advances in construction. The model is so nearly settled upon that the company has already ordered material for next year.

"G" for a "C"—Through the mistaking of a "C" for a "G" the Crouse-Hinds Co., of Syracuse, N. Y., whose double ball timer was described in the last issue of Motor Age, was called the Grouse-Hinds Co. This statement is made to correct the mistake.

Block Moves Up—Announcement is made this week that Louis C. Block has been appointed manager of the Buffalo branch of the Ford Motor Co., having been moved up from the position of assistant manager of the Philadelphia branch. Mr. Block assumed charge of the Bisontown store last Tuesday, succeeding A. M. Robbins.

Outing for Employees—The employees of the Baker Motor Vehicle Co., Cleveland, will hold their first annual outing at Luna park, the last of this week. The picnic grounds and athletic field will be turned over to them that day and the day at the park will be known as "Baker day." A parade of 100 Baker automobiles will leave the factory shortly after noon and after a spin about the principal streets of the city, the parade will cross the boulevard to the park.

Garage Fire in Detroit—Fire of a mysterious origin did about \$15,000 worth of damage to the garage of the Auto Express Co., in Detroit. The firm had more than a dozen of its light delivery cars put out of business and injured more or less, and the delivery departments of several of the Detroit stores were crippled for several days. The Auto Express Co. is one of the first firms organized for the purpose of parcel delivery by automobiles and was originally an offshoot of the local branch of the Olds Motor Works. One of the cars damaged was in the service of the United States postoffice department and the accident interrupts an interesting experiment



HEMERY'S NEW DARRACQ RACER

which was in progress with a view to establishing an automobile service to the branch postoffices of the city.

Is Panther Man—William Sanford, Jr., & Co., 322 North Broad street, Philadelphia, has taken on the local agency for Panther tires.

Boost for Boynton—Chester V. Boynton has left the selling force of Leon Rubay to become secretary and general manager of the Franco-American Supply Co., which will represent Leon Rubay in Chicago.

G & J's Latest Branch—A New York branch has been opened by the G & J Tire Co., at 10 West Sixtieth street, in charge of A. T. Smith. Repairs of G & J tires have hitherto been looked after by the Hartford Rubber Works branch.

Buffalo Loses—The large open air show projected for the coming autumn by the American Motor Car Manufacturers' Association, it has been decided, will not be held in Buffalo, as at first intended. The association was in receipt of a strong bid from the Buffalo chamber of commerce and from the Buffalo Automobile Club for the holding of this show in the Bison City. It proved to be an impossibility, however, for the chamber of commerce and the club to agree in the details of the proposition and the national organization eventually decided it would be better to hold the show

at some other point. Many of the members are in favor of holding the exhibition in or near New York city.

Made Winton Supervisor—Charles D. Smith, formerly with the Winton company's New York branch, has been appointed eastern supervisor for the company with headquarters at the Boston office.

Garage In a Church—Old St. Mark's church, in Howard avenue, Roxbury, Mass., has been converted into a garage. It will be known in the future as the

Howard Automobile Station and will be under the management of A. Joy.

Has Lots of Business—Ezra E. Kirk, vice-president of the E. R. Thomas Automobile Co., of Buffalo, paid his old home at Toledo a visit last week on his return from Detroit. Mr. Kirk will have his hands full from now on, as he will not only continue to act as sales manager for the Buffalo concern, but he will act in the same capacity for the new Thomas company formed at Detroit.

Sells Autocars in Frisco—The Middleton Motor Car Co., Autocar agent in San Francisco, reports a flourishing business at the present time, despite the recent disaster. It has wired the factory at Ardmore, Pa., that it can handle thirty runabouts for cash in a month if it can get them immediately. The company's store was destroyed by the fire, but it was doing business again inside of 3 days.

The New Darracq—The new Darracq brought out for the grand prix does not differ much from last year's model except that a 130-140-horsepower motor is fitted and instead of a speed change on the wheel this is now effected by means of levers on the side. Outside of this point the car is the same as the one in which Hemery won the Vanderbilt cup and the Ardennes circuit race last year.



INTERIOR OF THE ATWOOD GARAGE OF TOLEDO, O.

Current Automobile Patents

Novel Gasoline Motor—No. 820,010, dated May 8; to L. Petterson, Chicago.—Placing the crankshaft of the motor parallel with the bore of the two cylinders and locating it between the cylinders characterizes the prominent novelty in this designer's product. Both cylinders A are of the horizontal water-cooled type, arranged side by side, not opposed, as most two-cylinder motors are. Within these cylinders pistons C reciprocate. The crankshaft B has the central part B1 at about 25 degrees incline with the bearing portions. To this inclined portion is attached the irregularly-shaped bushing K, which has an arm on each end coupling with the connecting rods of the respective pistons. As one piston rises to the top of its cylinder the other passes to the bottom, the pistons working in direct opposition. In the illustration the end M of the casting K is at the bottom of the stroke in the top cylinder and as the piston rises the crankshaft is partly revolved.

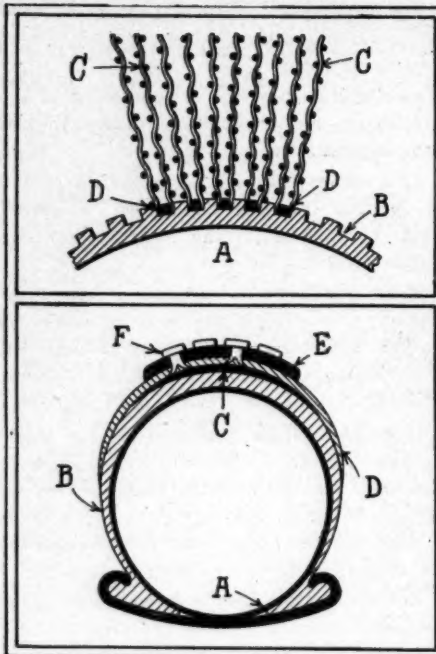
Cooling Fins for Cylinder—No. 820,278, dated May 8; to L. D. Zent, Bellefontaine, O.—A portion of the cylinder walls is represented by the arc A. In the outer or convex surface of this is a series of grooves B which in the cylinder extend vertically from the top to below the lower limit of piston travel. In each groove are inserted three members—two wavy radiating strips of metal C and a fastening strip D placed between them. The latter is so designed that when it is forced into position after the strips are in place it anchors them firmly in place, their inner ends being in close contact with the metal of the cylinder walls. The radiating strips C are further aided in their heat radiation by a series of small rods woven basket-like with the wave line of the strips C.

Auxiliary Tonneau Seat—No. 820,008, dated May 8; to D. C. MacDiarmid, Chicago.—In the patent referred to is described a design of folding seat for use in the tonneau of a car as an auxiliary to the back seat. The design arranges for two additional seats located on the side of the tonneau body immediately in the rear of the side entrances. These seats when not in use fold away against the side of the tonneau, being entirely out of the road of the passengers. Each seat takes its support from a vertical rod, to which is hinged a horizontal arm, and on this horizontal arm is carried the seat. When not in use the horizontal arm is swung upward, carrying with it the seat; then it swings back and to the side of the tonneau walls.

Samson Leather-tread Tire—No. 820,296,

dated May 8; to V. Gallien, Paris, France.—Six parts are found in the Samson leather tire referred to in this patent. The inner tube of soft rubber A contains the air and surrounding it is the outer rubber covering or tire B. The first addition is

ZENT'S COOLING SYSTEM



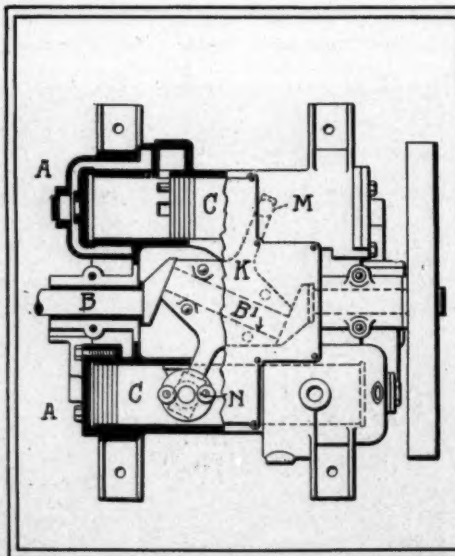
SAMSON'S ARMORED TREAD

what is termed a chafing strip, marked C. It is a crescent piece covering the tread and consists of rubber or leather, both sides of which are roughened and treated with a rubber solution. The outer surface of the tread of the tire B receives a similar treatment. After the rubber solution

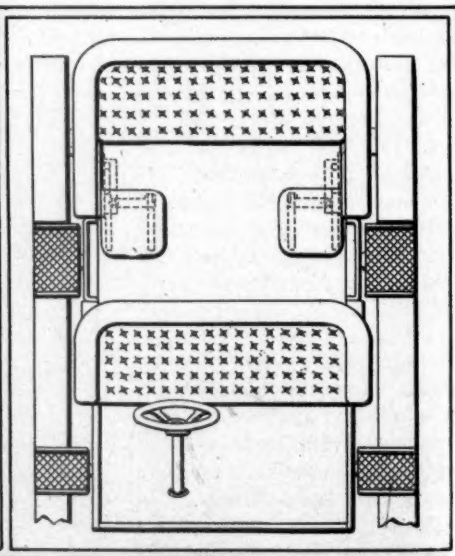
has been applied a mixture of carbon bisulphide and protochlorid of sulphur is added. The whole is then placed under cold pressure, thus vulcanizing the chafing strip C in place. Next over this chafing strip is added another crescent-shaped strip of leather D, of much wider size than the strip of chafing leather. Both sides of this strip are treated with rubber solution and the sulphur mixture. Lastly a chrome leather tread part E is placed and a series of metal rivets F are used to bind it in position to the strip D. The strip D then is vulcanized under cold pressure to the chafing strip C and the sides of the tire B.

Repairing Pneumatic Tires—No. 820,110, dated May 8; to H. Harrison, Erdington, Eng.—In repairing the puncture in the air tube of a pneumatic tire two opposing metal disks are used. One is forced through the puncture in the tire into the inside of the tube. This disk has a short central hollow stem and projects outwardly through the puncture. A similar disk fits over the outside of the punctured portion and has a stem that fits within the stem of the other disk. By means of these the two disks are held together, squeezing the rubber of the air tube walls tightly between them, forming an airtight patch, without the use of a rubber patch or rubber solution.

Iron Tire Tread—No. 820,104, dated May 8; to P. W. Fawcett and E. L. W. Bellhouse, Sheffield, Eng.—The iron tread on this tire resembles the clincher rim with its flanges, except that the flanges are turned towards the rim of the wheel instead of from it, as is the case with those on the rim. The tread portion of the tire is almost a duplicate of that part resting on the rim, it having an oblique union where one side of the rubber rests on the lip pieces, both together resting in the flanges on the tread part. The tread is not one rim or ring of metal, but several sections, all of which are linked one to each other, forming a continuous armor for the entire wheel circumference. To remove deflate the tire.



PETTERSON'S MOTOR



MACDIARMID'S SEATS

BRIEF BUSINESS ANNOUNCEMENTS

Shreveport, La.—A new agency for the Maxwell has just been established with Foster Carter.

Trenton, N. J.—A contract has been let for the erection of a new garage for Mrs. Carl Fischer on South Warren street.

Brooklyn—C. A. P. Jehle is a director of the De Barres Automobile Co., of New York city, recently incorporated with a capital stock of \$50,000.

Indianapolis—A new garage has been opened at 25-27 West St. Clair street. Frank A. Beck, who has been engaged for several years in the livery business.

Rutherford, N. J.—The R. & P. Traction Tire Co. has opened a new factory and will be able to supply about 100 tires a week.

New York—E. T. Kimball has secured the agency for the Corbin and the Soules delivery truck, and will open up headquarters at 1779 Broadway.

Yonkers, N. Y.—F. H. Raynor is one of the directors of the Hamilton Garage and Motor Co., a company recently incorporated with a capital stock of \$20,000.

Milwaukee, Wis.—The A. D. Meiselbach Motor Vehicle Co. is planning to build a large addition to its plant in North Milwaukee. The improvements will cost about \$50,000.

East Orange, N. J.—The Hollywood Motor Car Co. is the latest company to locate here, building a large garage near the Gorge street station, and will handle the Marion.

New York—Among recent changes is the appointment of H. S. Oppenheimer as general manager of the Minimax company, manufacturer of a chemical fire extinguisher for garages.

Syracuse, N. Y.—The Syracuse Automobile Livery Association has been formed for mutual protection and to maintain a schedule of prices. Among those who have signed the agreement are the Amos-Pierce Co., Syracuse Motor Car Co., L. C. G. Tabor, J. W. Cronin and J. S. Colwell. Others will sign later.

New York—The Multiplex Tube Tire Co. has been incorporated with a capital stock of \$1,000,000 by F. A. Magowan, P. J. Pitts, F. N. Adams and Kenneth K. McLaren. The company will deal in rubber, caoutchouc and other gums and will manufacture tires for automobiles and other vehicles.

Seabright, N. J.—A new automobile garage is to be opened here under the management of William Brannan, for several years engineer of the local fire department. A large and thoroughly equipped garage has been fitted up on Church street, and will be opened at once. An up-to-date repair shop will be run in connection with the company's garage.

Kansas City, Mo.—C. F. Etwein is to open a garage at the corner of Thirty-seventh and Main streets.

Newark, N. J.—The Haines Auto Co. will build an automobile garage on Roseville avenue at a cost of \$3,000.

South Orange, N. J.—Erskine & Hall, the agents for the Rambler, have completed the addition to their garage.

Kingston, N. Y.—The bankrupt estate of the Peckham Motor Truck Mfg. Co. has been sold by the trustee, Hewitt Boice.

New York—C. A. Dueer & Co. are building a new garage on upper Broadway. This company is the agent for the Royal Tourist automobile.

New York—The United Automobile Co. has opened a salesroom at 136 West Thirty-eighth street, and will buy, sell and exchange cars.

New York—On June 1 the local branch of the Reo company will be removed to the big building at Sixtieth street, near Sixth avenue, formerly occupied by the American Automobile Storage Co.

Philadelphia—The Dietz-Plummer Motor Car Co., composed of John H. Dietz, Jr., and Fletcher G. Plummer, has been dissolved by the retirement of Fletcher G. Plummer. The business will be continued by John H. Dietz, Jr., who will assume all obligations and to whom all debts will be paid.

Altoona, Pa.—The new garage of the Altoona Motor Car Co. is now completed. A large display room and the office take up the first floor, and on the upper story the storage room and the machine shop will be located. The members of the company are R. Z. Rother, Harry Morgan and George C. Epplenman.

RECENT INCORPORATIONS

Detroit—Coleman Auto Top Co., capital stock, \$5,000; to manufacture tops.

Chicago—Autocape Top Co., capital stock, \$2,000; to manufacture automobile tops and curtains; incorporators, A. C. Beighler, H. E. Holden and D. C. Miller.

South Bend, Ind.—South Bend Automobile & Garage Co.; capital stock \$5,000; to deal in automobiles; incorporators, H. D. Johnson, N. J. Riley, G. M. Studebaker, E. L. Kuhns and C. A. Carlisle.

Indianapolis—Indiana Motor Club, capital stock, \$5,000; to promote motor boating, automobilism and aquatic sports; incorporators, F. J. Barr, Frank B. Willis and Bert Newton Pierce.

New York—Auto-Service Co., capital stock \$50,000; to manufacture and deal in automobiles; incorporators, R. Bolshaw, Elmer Stouffer, David Hyams, F. L. Creamer and Arthur Low.

Minneapolis—Minneapolis Automobile Mfg. Co., capital stock \$10,000; to deal in and manufacture automobiles; incorporators, J. M. Johnson, Thomas A. Barrett and James M. Crozier.

Toledo, O.—Arc Plug Mfg. Co., capital stock \$10,000; incorporators, E. Z. Stark, M. P. Slack and W. A. Janis.

Boston—E. S. Breed, having retired from the agency of the Elmore, has taken on that of the Buffum four-cylinder runabout.

New York—E. D. Winans, general manager of the Michelin Products Selling Co., has acquired the services of M. J. Dobler as special representative.

New York—During the past week Compound agencies have been placed with Fred E. Dack, of Galva, Ill., and with Charles A. Caldwell, of Bainbridge, Ga.

Boston—The Boston Auto Livery Co., which has been incorporated with a capital stock of \$15,000, to buy, sell and deal in autos, has elected officers. The president is A. Leverone and the treasurer R. A. Waiteling, of Boston.

New York—The American Motor Car Manufacturers' Association is removing its offices from Chicago and the headquarters of the organization will hereafter be maintained in New York city. A central location has been selected and will be announced at an early date.

Jersey City, N. J.—The Vandergrift Automobile Co. has been incorporated with a capital stock of \$100,000, to manufacture automobiles, carriages and mechanical and electrical engineers, express, transfer and forwarding, by Henry G. Morris, P. G. Salon and F. R. Donahue.

Camden, N. J.—The Matthews Motor Co., which has been incorporated with a capital stock of \$75,000, will locate in Camden at the corner of Fifth and Erie streets. The incorporators are Louis I. Matthews, Philadelphia, Pa.; J. Morris, Germantown, Pa., and Craig Hefberton, also of Philadelphia.

Philadelphia—An application has been made for a charter for the Colonial Auto Co., of this city. This company will engage in the manufacture and repair of automobiles, conduct a storage business and handle accessories. H. P. Frey, William W. Moore and Arthur H. Burton are among those interested.

Washington, D. C.—The Central Garage Co. has been incorporated here with a capital stock of \$2,000. The company will deal in all kinds of cars, both gasoline and electric, will conduct a garage and repair shop, as well as a storage business. John W. Points, of 1312 New York avenue, is named as resident agent. The incorporators are John W. Points, F. L. Mockabee and R. C. McAuley.

Meriden, Conn.—The Connecticut Telephone & Electric Co. has placed the Pacific coast agency for its spark coils with the George P. Moore Co., of Oakland and Los Angeles, Cal. The establishment of the Moore company at San Francisco was entirely destroyed by the recent fire, but it has promptly opened up a branch at Oakland and is already carrying a large stock of spark coils ready for business.

American Motor League

OFFICIAL BULLETIN

National Headquarters, Vanderbilt Building
New York

NEW YORK TO NEW HAVEN

There will be five maps covering the route from New York to Boston. The road from New York to New Haven, about 80 miles, is shown this week. The second section reaches from New Haven to New London, the third from New London to Narragansett pier, the fourth from Narragansett pier to Providence and the fifth from Providence to Boston. These plates are now all engraved and the route cards are being printed. All maps will appear in the official road book of the league—one copy free to each member—and in the meantime ten of the first route cards will be sent to the league members for temporary use. These cards are of substantial and double bristol board and on the back of each card is printed a detailed description of the route shown by the map. Each card is just narrow enough to slip easily into an overcoat pocket and just wide enough to show the tourist in the plainest way the best route for his journey and how to travel it. The space here is not sufficient to contain a route description, and it is therefore omitted. All needed corrections and additions will be made before these plates are used for printing the road book. To protect these route cards from rain, dirt and grease, a transparent map case has been devised, having a celluloid front and back, bound in leather and closing by a snap button on one of the longer sides of the case.

WESTERN ROUTES WANTED

League members in the east are working with energy to get out careful and correct route descriptions, and these are being put into maps as fast as they are sent in. Western routes are wanted. Who will volunteer? Some of the most delightful tours in the country are in the western and middle states, and these tours should be mapped and described for the use of automobilists who are always exploring new localities. If the reader cares to contribute a little of his time to this interesting work let him send his name and address to the secretary of this organization.

MEMBERS WANTED

The league wants members everywhere. It is spending every dollar of its income for the benefit of a cause in which all are interested. It deserves the support of every motor car user in the world. There is no initiation fee; dues \$2 per year. Full printed information will be sent on request. Address American Motor League, Vanderbilt building, New York.

